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gunnison basin and the american flats - silverton wilderness

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NOTICE

Enclosed for your review and comment is the draft environmental impact statement for the proposed Wilderness Study Areas in the Gunnison Basin and American Flats/Silverton Planning Units.

The statement is based on information from the Bureau of Land Management and other sources, including information supplied by and in consultation with Federal, State, and local agencies, and interested private organizations and individuals. The purpose of the statement is to disclose in advance the probable environmental impacts of the proposed action and alternatives and to assure that the decisionmaking process considers environmental as well as economic, technical, and other factors.

We would appreciate receiving your comments on the adequacy, completeness, and accuracy of this analysis. The comment period will run for 90 days after the draft is filed with the Environmental Protection Agency and the notice of receipt is published in the Federal Register. Comments received after the 90-day review period will be considered in the subsequent decisionmaking process, even though they may arrive too late for inclusion in the final environmental impact statement.

Your comments should be sent to:

Mr. Henri Bisson
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Cecil Roberts
Acting State Director

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ENVIRONMENTAL IMPACT STATEMENT

PROPOSED WILDERNESS DESIGNATION OF THE WILDERNESS STUDY AREAS WITHIN THE GUNNISON BASIN AND AMERICAN FLATS/SILVERTON PLANNING UNITS OF THE

MONTROSE DISTRICT, COLORADO

Prepared by

Bureau of Land Management
Department of the Interior

Cecil Roberts
Acting
State Director
Colorado State Office

Abstract: This environmental impact statement considers a proposed action and alternatives for eight Wilderness Study Areas (WSAs) in the Gunnison Basin and American Flats/Silverton Planning Unit. The WSAs considered are Redcloud Peak, 40,575 acres; Handies Peak, 18,860 acres; American Flats, 4,710 acres; Bill Hare Gulch, 370 acres; Larson Creek, 900 acres; Weminuche Contiguous, 1,980 acres; Whitehead Gulch, 6,200 acres; and Needle Creek, 4,540 acres. The proposed action and alternatives analyze and compare various acreages for designation or non-designation as wilderness.

For Further Information Contact:

Comments Must Be Received By: July 8, 1982

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SUMMARY

The Bureau of Land Management proposes to recommend to Congress that 28,465 acres of the Montrose District in Southwestern Colorado be included in the National Wilderness Preservation System. There are eight Wilderness Study Areas (WSAs) in the Gunnison Basin and American Flats/Silverton Planning Units, totalling 78,135 acres. These WSAs were studied and evaluated through this environmental impact statement and using the criteria developed in the BLM's Draft Wilderness Study Policy (see Appendix 1.1). At a minimum three alternatives were considered for each WSA: (1) All-Wilderness Alternative; (2) No-Wilderness (No Action) Alternative; and (3) either a Wilderness Manageability Alternative and/or a Conflict Resolution Alternative. Following is a summary by WSA's.

Redcloud Peak (CO-030-208)

1. All-Wilderness Alternative: This alternative would include 40,575 acres for wilderness designation.

Designation as wilderness would result in resource trade-offs. Some resource values would be foregone in order to preserve other values. Approximately 38,845 acres would be withdrawn from mineral entry.

Visitor use in the WSA would increase from an estimated 3,489 visitor days (1980) to 5,610 in the short term (1985) and 17,800 in the long term (2000).

This alternative would include 280 acres of private land and 1,730 acres of State of Colorado owned minerals within the boundaries of this recommendation.

2. No-Wilderness Alternative (No Action): Under this alternative no acreage would be managed as wilderness.

This alternative could adversely affect the wilderness values of the area. Mineral development could create impacts to the wilderness resource as well as impacts to other resources. Such impacts would be analyzed at the time these development plans would be made.

Recreation use would continue at the present rate of increasing use; however, future demands on the area along with resource development could change the type of recreation from primitive forms of recreation to road and ORV motorized uses.

3. Wilderness Manageability Alternative: This alternative would include 37,530 acres for wilderness designation.

Impacts under this alternative would be similar to those described under the All-Wilderness Alternative. This alternative, however, would include 245 acres of private land and 1,330 acres of State of Colorado owned minerals within the boundaries of this recommendation.

Approximately 36,200 acres would be withdrawn from mineral entry.

4. Conflict Resolution Alternative I: This alternative would include 29,680 acres for wilderness designation and excludes the Red Mountain alunite deposit from wilderness designation.

Impacts under this alternative would be similar to those described under the All-Wilderness Alternative. In addition, those lands not proposed for wilderness designation would be recommended as a Further Study Area with a final recommendation pending completion of the Earth Sciences Alunite Environmental Impact Statement.

The lands recommended for wilderness designation would include 90 acres of private land and 1,290 acres of State of Colorado owned minerals within the boundaries of this recommendation. Visitor use in the WSA would increase from an estimated 3,480 visitor days

(1980) to 5,610 in the short term (1985) and 15,130 in the long term (2000).

Approximately 28,390 acres would be withdrawn from mineral entry.

5. Conflict Resolution Alternative II (Preferred Alternative): This alternative would include 11,140 acres for wilderness designation.

Designation of a portion of the lands as wilderness would result in resource trade-offs. Some resource values would be foregone in order to preserve other values. Approximately 11,140 acres would be withdrawn from mineral entry. This alternative would include as wilderness designation the area around Red Cloud Peak and Sunshine Peak.

Visitor use in the WSA would increase from an estimated 3,480 visitor days (1980) to 5,610 in the short term (1985) and 8,900 in the long term (2000).

The portion of the alternative where no acreage would be managed as wilderness could adversely affect the wilderness values of the area. Mineral development could create impacts to the wilderness resource as well as impacts to other resources. Such impacts would be analyzed at the time these development plans would be made. Recreation use would continue at the present rate of increasing use; however, future demands on the areas along with resource development could change the type of recreation from primitive forms of recreation to road and ORV motorized uses.

Handies Peak (CO-030-241)

1. All-Wilderness Alternative: This alternative would include 18,860 acres for wilderness designation.

Designation as wilderness would result in resource trade-offs. Some resource values would be foregone in order to preserve other values. Approximately 18,260 acres would be withdrawn from mineral entry. This alternative would include 145 acres of private land and 600 acres of State of Colorado owned minerals within the boundaries of this recommendation.

Visitor use in the WSA would increase from an estimated 3,150 visitor days (1980) to 5,070 in the short term (1985) and 16,100 in the long term (2000).

2. No-Wilderness Alternative (No Action): Under this alternative no acreage would be managed as wilderness.

The impacts under this alternative would be essentially the same as those described in the No-Wilderness Alternative for Redcloud Peak.

3. Wilderness Manageability Alternative: This alternative would include 8,220 acres for wilderness designation.

Designation of a portion of the lands as wilderness would result in resource trade-offs. Some resource values would be foregone in order to preserve other values. Approximately 7,820 acres would be withdrawn from mineral entry. This alternative would include 100 acres of private land and 400 acres of State of Colorado owned minerals within the boundaries of this recommendation.

Visitor use in the WSA would increase from an estimated 3,150 visitor days (1980) to 5,070 in the short term (1985) and 8,050 in the long term (2000).

The portion of the alternative where no acreage would be managed as wilderness could adversely affect the wilderness values of that area. Mineral development could create impacts to the wilderness resource as well as impacts to other resources. Such impacts would be analyzed at the time these development plans would be made. Recreation use would continue at the present rate of increasing use; however, future demands on the area along with resource development could change the type of recreation from primitive forms of recreation to road and ORV motorized uses.

4. Conflict Resolution Alternative (Preferred Alternative): This alternative would include 7,120 acres for wilderness designation.

Impacts under this alternative would be similar to those described under the Wilderness Manageability Alternative. Approximately 7,120 acres would be withdrawn from mineral entry. This alternative would include 95 acres of private land. No State of Colorado owned minerals would be included within this recommendation.

American Flats (CO-030-217)

1. All-Wilderness Alternative: This alternative would include 4,710 acres for wilderness designation. This alternative is contiguous to the existing Big Blue Wilderness Area.

Designation as wilderness would result in resource trade-offs. Some resource values would be foregone in order to preserve other values. Approximately 4,700 acres would be withdrawn from mineral entry. This alternative would include 10 acres of State of Colorado owned minerals within the boundaries of this recommendation.

Visitor use in the WSA would increase from an estimated 2,130 visitor days (1980) to 3,130 in the short term (1985) and 9,910 in the long term (2000).

2. No-Wilderness Alternative (No Action): Under this alternative no acreage would be managed as wilderness.

The impacts under this alternative would be essentially the same as those described in the No-Wilderness Alternative for Redcloud Peak.

3. Conflict Resolution Alternative (Preferred Alternative): This alternative would include 1,505 acres for wilderness designation. This alternative is contiguous to the existing Big Blue Wilderness Area.

Designation of a portion of the lands as wilderness would result in resource trade-offs. Some resource values would be foregone in order to preserve other values. Approximately 1,505 acres would be withdrawn from mineral entry. No State of Colorado owned minerals would be included within this recommendation.

Visitor use in the WSA would increase from an estimated 2,130 visitor days (1980) to 3,130 in the short term (1985) and 8,916 in the long term (2000).

The portion of the alternative where no acreage would be managed as wilderness could adversely affect the wilderness values of the area. Mineral development could create impacts to the wilderness resource as well as impacts to other resources. Such impacts would be analyzed at the time these development plans would be made. Recreation use would continue at the present rate of increasing use; however, future demands on the area along with resource development could change the type of recreation from primitive forms of recreation to road and ORV motorized uses.

Bill Hare Gulch (CO-030-085)

1. All-Wilderness Alternative: This alternative would include 370 acres for wilderness designation and is contiguous with the existing Big Blue Wilderness Area.

Visitor use in the WSA would increase from an estimated 170 visitor days (1980) to 260 in the short term (1985) and 810 in the long term (2000).

No significant resource values would be foregone with wilderness designation.

2. No-Wilderness Alternative (No Action) (Preferred Alternative): Under this alternative, no acreage would be managed as wilderness.

No significant resource values would be foregone if the area was not designated as wilderness.

3. Wilderness Manageability Alternative: This alternative would include 325 acres for wilderness designation and is contiguous with the existing Big Blue Wilderness Area. Impacts would essentially be the same as discussed under the All-Wilderness Alternative.

No significant resource values would be foregone with wilderness designation.

Larson Creek (CO-030-086)

1. All-Wilderness Alternative: This alternative would include 900 acres for wilderness designation and is contiguous to the existing Big Blue Wilderness Area.

Visitor use in the WSA would increase from an estimated 190 visitor days (1980) to 280 in the short term (1985) and 890 in the long term (2000).

No significant resource values would be foregone with wilderness designation.

2. No-Wilderness Alternative (No Action) (Preferred Alternative): Under this alternative, no acreage would be managed as wilderness.

No significant resource values would be foregone if the area was not designated as wilderness.

3. Wilderness Manageability Alternative: This alternative would include 480 acres for wilderness designation and is contiguous with the existing Big Blue Wilderness Area.

No significant resource values would be foregone with wilderness designation.

Visitor use in the area would increase from an estimated 190 visitor days (1980) to 280 in the short term (1985) and 270 in the long term (2000).

Weminuche Contiguous (CO-030-238B)

1. All-Wilderness Alternative: This alternative would include 1,980 acres for wilderness designation and is contiguous to the existing Weminuche Wilderness Area.

Designation as wilderness would result in resource trade-offs. Some resource values would be foregone in order to preserve other values. Approximately 1,380 acres would be withdrawn from mineral entry. This alternative would include five acres of private land and 600 acres of State of Colorado owned minerals within the boundaries of this recommendation.

Visitor use in the WSA would increase from an estimated 490 visitor days (1980) to 720 in the short term (1985) and 2,500 in the long term (2000).

2. No-Wilderness Alternative (No Action): Under this alternative no acreage would be managed as wilderness.

The impacts under this alternative would be essentially the same as those described in the No-Wilderness Alternative for Redcloud Peak.

Additionally, non-designation of these lands as wilderness could severely conflict with the management of adjacent wilderness lands administered by the U.S. Forest Service.

3. Wilderness Manageability Alternative (Preferred Alternative): This alternative would include 375 acres for wilderness designation and is contiguous to the existing Weminuche Wilderness Area.

Designation as wilderness would result in resource trade-offs. Some resource values would be foregone in order to preserve other values. Approximately 215 acres would be withdrawn from mineral entry. This alternative would include five acres of private land and 160 acres of State of Colorado owned minerals within the boundaries of this recommendation.

Visitor use in the WSA would increase from an estimated 490 visitor days (1980) to 720 in the short term (1985) and 1,940 in the long term (2000).

The portion of the alternative where no acreage would be managed as wilderness could adversely affect the wilderness values of the area. Mineral development could create impacts to the wilderness resource as well as impacts to other resources. Such impacts would be analyzed at the time these development plans would be made. Recreation use would continue at the present rate of increasing use; however, future demands on the area along with resource development could change the type of recreation from primitive forms of recreation to road and ORV motorized uses.

Whitehead Gulch (CO-030-230B)

1. All-Wilderness Alternative: This alternative would include 6,200 acres for wilderness designation and is contiguous to the Weminuche Wilderness Area.

Designation as wilderness would result in resource trade-offs. Some resource values would be foregone in order to preserve other values. Approximately 5,560 acres would be withdrawn from mineral entry. This alternative would include 640 acres of State of Colorado owned minerals within the boundaries of this recommendation.

Visitor use in the WSA would increase from an estimated 2,880 visitor days (1980) to 4,230 in the short term (1985) and 13,410 in the long term (2000).

2. No-Wilderness Alternative (No Action): Under this alternative no acreage would be managed as wilderness.

The impacts under this alternative would be essentially the same as those described in the No-Wilderness Alternative for Redcloud Peak.

In addition, non-designation of these lands as wilderness could severely conflict with the management of adjacent wilderness lands administered by the U.S. Forest Service.

3. Wilderness Manageability Alternative (Preferred Alternative): This alternative would include 4,115 acres for wilderness designation and is contiguous to the existing Weminuche Wilderness Area.

Designation as wilderness would result in resource trade-offs. Some resource values would be foregone in order to preserve other values. Approximately 3,475 acres would be withdrawn from mineral entry. This alternative would include 640 acres of State of Colorado owned minerals within the boundaries of this recommendation.

Visitor use in the WSA would increase from an estimated 2,880 visitor days (1980) to 4,230 in the short term (1985) and 12,740 in the long term (2000).

The portion of the alternative where no acreage would be managed as wilderness could adversely affect the wilderness values of the area. Mineral development could create impacts to the wilderness resource as well as impacts to other resources. Such impacts would be analyzed at the time these development plans would be made. Recreation use would continue at the present rate of increasing use; change the type of recreation from primitive forms of recreation to road and ORV motorized uses.

4. Conflict Resolution Alternative: This alternative would include 1,770 acres for wilderness designation and is contiguous to the existing Weminuche Wilderness Area.

Approximately 1,770 acres would be withdrawn from mineral entry.

Visitor use in the area would increase from an estimated 2,880 visitor days (1980) to 4,230 in the short term (1985) then decrease to 1,341 in the long term (2000).

The portion of the alternative where no acreage would be managed as wilderness could adversely affect the wilderness values of the area. Mineral development could create impacts to the wilderness resource as well as impacts to other resources. Such impacts would be analyzed at the time these development plans would be made. In addition, non-designation of these lands as wilderness could severely conflict with the management of adjacent wilderness lands administered by the U.S. Forest Service.

Needle Creek (CO-030-229B)

1. All-Wilderness Alternative: This alternative would include 4,540 acres for wilderness designation and is contiguous with the existing Weminuche Wilderness Area.

Designation as wilderness would result in resource trade-offs. Some resource values would be foregone in order to preserve other values. Approximately 4,540 acres would be withdrawn from mineral entry. This alternative would include 80 acres of private land.

Visitor use in the WSA would increase from an estimated 3,140 visitor days (1980) to 4,620 in the short term (1985) and 14,640 in the long term (2000).

2. No-Wilderness Alternative (No Action): Under this alternative no acreage would be managed as wilderness.

The impacts under this alternative would be essentially the same as those described in the No-Wilderness Alternative for Redcloud Peak. In addition, non-designation of these lands as wilderness could severely conflict with the management of adjacent wilderness lands administered by the U.S. Forest Service.

3. Wilderness Manageability Alternative (Preferred Alternative): This alternative would include 4,160 acres for wilderness designation.

Impacts under this alternative would be essentially the same as discussed under the All-Wilderness Alternative. Approximately 4,160 acres would be withdrawn from mineral entry and 60 acres of private land would be included in the boundaries.

Major Areas of Controversy

Many people of Colorado, particularly the residents of Hinsdale County, feel that the state already has enough wilderness areas designated. Conversely, other individuals feel that additional wilderness is needed in the state. These diverse opinions are repeatedly expressed at public meetings and through the various news media. Because of the lack of historical use and development of the area, many persons question the need for wilderness protection. However, other comments received express concerns that future development would impair the wilderness values.

The major area of conflict is the development of mineral resources versus the preservation and protection of the wilderness resources. Both of these resources have local and regional significance as well as national significance. Since only four percent of all lands within Hinsdale County are in private ownership, the inclusions of private inholdings within any area of wilderness designation could generate some local controversy.

Conclusion

Of the Bureau's preferred alternative to recommend designation of 28,415 acres of public land as wilderness, 10,155 acres are contiguous to existing wilderness administered by the U.S. Forest Service. American Flats, adjacent to the Big Blue Wilderness Area, contains 1,505 acres recommended for inclusion into the national Wilderness Preservation System. There are three areas adjacent to the Weminuche Wilderness Area which are proposed for wilderness designation by the Bureau; Weminuche Contiguous (375 acres), Whitehead Gulch (4,115 acres), and Needle Creek (4,160 acres).

Portions of Redcloud Peak (11,140 acres) and Handies Peak (7,120 acres) are recommended for wilderness designation and are logically considered together although separated by a four-wheel drive maintained road. These two areas, totalling 18,260 acres, are not contiguous to any existing wilderness area.

The benefits to all resource values are compared to the adverse impacts to all values for all of the alternatives. In terms of trade-off, the preferred alternative, as discussed above, would result in the best balance of resource values foregone for those preserved. Since this alternative was formulated through the BLM planning system, it is the BLM's proposed action. Since it would involve the optimum level of resource trade-offs, it is also the preferred course of action. Thus the Bureau is recommending that 36 percent of lands studied for wilderness suitability be designated as wilderness by Congress, and 64 percent of the lands studied be released from further wilderness consideration.

CHAPTER 1

PURPOSE AND NEED

This environmental impact statement (EIS) analyzes the potential impacts of designating eight Wilderness Study Areas (WSAs) totalling 78,135 acres into the National Wilderness Preservation System.

There are eleven WSAs within the Gunnison Basin and American Flats/Silverton Planning Units. Three of these WSAs are contiguous to a U.S. Forest Service study area or planning area. These three WSAs, Sparling Gulch/Friends Creek (CO-030-088/213), Slumgullion Slide (CO-030-211), and West Needles Contiguous (CO-030-229A), will be jointly studied by the Bureau of Land Management (BLM) and the Forest Service in conjunction with Forest Service land use plans.

The eight BLM WSAs under study in this Gunnison Basin and American Flats/Silverton Wilderness EIS are (see Map 1-1):

WSA	Acreage
Redcloud Peak (CO-030-208)	40,575
Handies Peak (CO-030-241)	18,860
American Flats (CO-030-217)	4,710
Bill Hare Gulch (CO-030-085)	370
Larson Creek (CO-030-086)	900
Weminuche Contiguous (CO-030-238B)	1,980
Whitehead Gulch (CO-030-120B)	6,200
Needle Creek (CO-030-229B)	4,540
TOTAL	78,135

BLM's wilderness program is a result of the Federal Land Policy and Management Act (FLPMA) of 1976 (Public Law 94-579). FLPMA is Congress' basic guidance to the BLM on how to manage the 470 million acres of public lands.

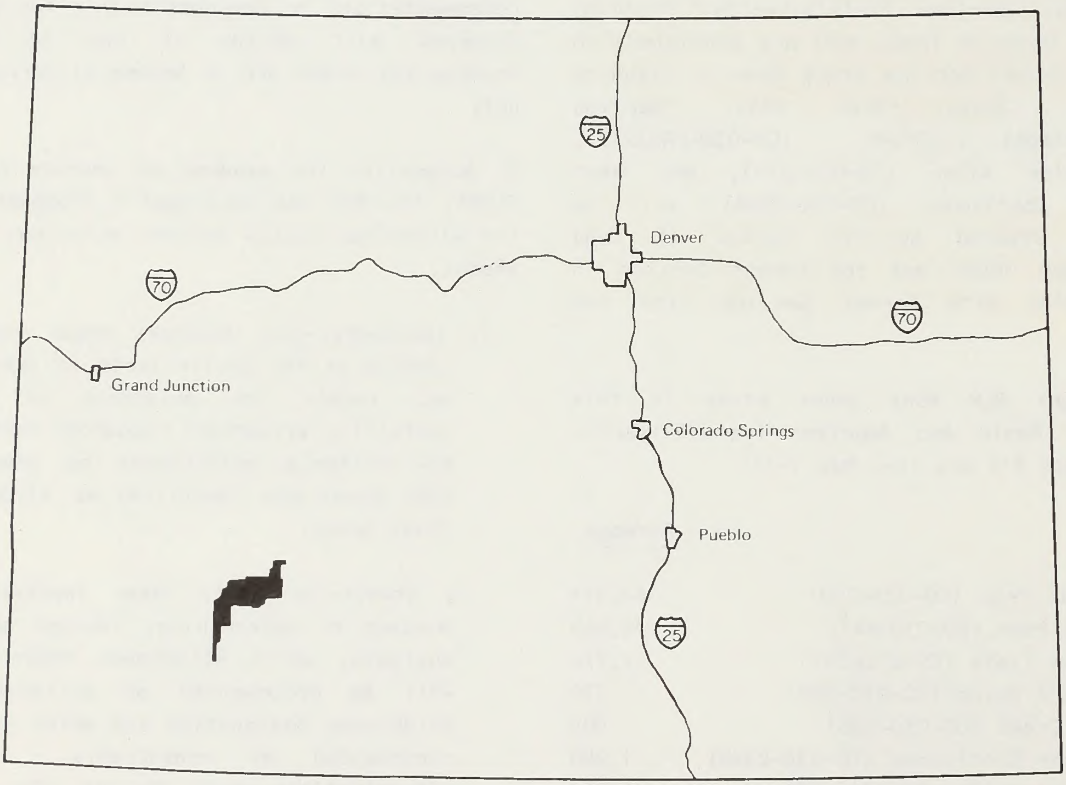
One portion of FLPMA (Section 603[a]) directs the Secretary of the Interior and the BLM to inventory public lands to identify those that have wilderness characteristics. Lands with wilderness characteristics must then be studied to determine their suitability or nonsuitability for wilderness. Based on an evaluation of wilderness and other resources use/values in each area determined to contain wilderness characteristics, the Secretary must report his recommendations to the President no later than October 21, 1991, on whether areas should be designated as wilderness. The President must report his final recommendations to Congress within two years. Congress will decide if any of these recommended areas are to become wilderness or not.

To accomplish the mandate of section 603 of FLPMA, the BLM has developed a framework for the wilderness review process which has three phases:

1. Inventory--The inventory phase involves looking at the public lands to determine and locate the existence of areas containing wilderness resources that meet the criteria established by Congress. Such areas are identified as Wilderness Study Areas.
2. Study--The study phase involves the process of determining, through careful analysis, which Wilderness Study Areas will be recommended as suitable for wilderness designation and which will be recommended as nonsuitable. These determinations made through the BLM's land use planning system, consider all values, resources, and uses of the public lands.
3. Reporting--The reporting phase consists of actually forwarding or reporting these suitable and nonsuitable recommendations through the Secretary of the Interior and the President to Congress. Mineral surveys, environmental impact statements, and other data are also submitted with these recommendations.

The inventory phase of the process was completed for these eight WSAs in December 1980. A total of 78,135 acres were found to contain wilderness values and thus identified

COLORADO



General Location Map
Map 1-1

as Wilderness Study Areas (see Map 1-2). None of these areas were formally appealed to the Interior Board of Land Appeals (IBLA). In determining these wilderness values, the law directs the BLM to use the criteria given by Congress in the Wilderness Act of 1964. In Section 2(c) of that Act, Congress states that wilderness is essentially an area of undeveloped Federal land in a natural condition, without permanent improvements or human habitation, which has outstanding opportunities for solitude or a primitive and unconfined type of recreation. The area may contain ecological, geological, or other features of scientific, educational, scenic, or historical value (see Appendix 1.1).

The Management Framework Plan (MFP) Step II for Gunnison Basin and American Flats/Silverton Planning units was completed during the spring of 1979. The wilderness resource recommendations were not completed in MFP Step II pending completion of the wilderness inventory. In March of 1981 a planning amendment was initiated to complete these wilderness resource recommendations.

A series of scoping and issue identification meetings were held in Gunnison, Montrose, Lake City, Silverton, and Denver, Colorado. These meetings were used to identify any new issues, solicit resource data from the public, and explain the study procedures to be used.

A second series of scoping meetings were held in August of 1981 to present the proposed alternatives for each of the WSAs. At these workshops, information pertaining to a preferred alternative was solicited as well as a request for any additional alternatives not addressed by BLM.

A number of concerns were brought forth at these meetings. Some commenters feel that additional wilderness is necessary in order to protect some parts of the area in their natural state. Others feel that additional wilderness could affect the local economy, since it is dependent to a high degree on motorized recreation and mining. Since a large percentage of land in the area is administered by the federal government, especially in Hinsdale County, some commenters feel that restrictions on use could directly affect local businessmen.

Upon review of all public comments on this Draft EIS, a Final EIS will be completed and recommendations will be sent to the President.

CHAPTER 2

ALTERNATIVES INCLUDING THE PROPOSED ACTION

This EIS deals with eight different wilderness study areas and examines from three to five alternatives for each. With the exception of the No-Wilderness (No-Action) Alternative for each WSA, all alternatives propose recommending to Congress some lands as additions to the National Wilderness Preservation System. If designated, Whitehead Gulch (6,200 acres), Needle Creek (4,620 acres), and Weminuche Contiguous (1,985 acres) would become part of the adjacent Weminuche Wilderness Area. American Flats (4,710 acres), Larson Creek (900 acres), and Bill Hare Gulch (370 acres) would become part of the adjacent Big Blue Wilderness Area. Redcloud Peak (40,855 acres) and Handies Peak (19,005 acres) would become separate wilderness areas.

If designated by Congress, these additions to the National Wilderness Preservation System would be managed according to provisions of the 1964 Wilderness Act, the 1976 Federal Land Policy and Management Act, and BLM's Final Wilderness Management Policy of September 24, 1981. These acts and management policy direct the administering agency to be responsible for preserving the wilderness character of the area. Section 4 of the 1964 Wilderness Act, which deals with use in wilderness areas, states that they shall be devoted to the public purposes of recreation, scenic, scientific, educational, conservation, and historical use. Subpart C of that Section 4 sets the following limits on use:

Prohibited Uses and Activities

> "Except as specifically provided for in this Act (Wilderness Act of 1964), and subject to existing private rights, there shall be no commercial enterprise and no permanent road within any wilderness area designated by this Act and, except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act (including measures required in emergencies involving the health and safety of persons within the area), there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboars, no landing of transport, and no structure or installation within any such area."

The special provisions allowing specific activities to be permitted are discussed in the next subpart of Section 4 and summarized here. The use of aircraft or motorboats, where these uses have already become established, may be permitted to continue and such measures as may be necessary in the control of fire, insects, and diseases would be allowed. These activities would be subject to the conditions deemed desirable by the managing department head.

Mineral prospecting would be allowed if it could be done in a manner compatible with the preservation of the wilderness environment until December 31, 1983. The mining laws and all laws pertaining to mineral leasing in effect before designation would remain in effect, subject, however, to such reasonable regulations governing ingress and egress as prescribed by the Secretary, including, where essential, the use of mechanized ground or air equipment and restoration, as near as possible, of the surface of land disturbed during the mining activity.

When it serves the public interests the President may authorize the establishment and maintenance of reservoirs, power projects, transmission lines, roads, and other such facilities.

The grazing of livestock is permitted to continue subject to such reasonable regulations as are deemed necessary by the Secretary.

Commercial services could be performed within the wilderness area to the extent necessary for realizing the recreation or other wilderness purposes of the area.

The Act does not exempt the affected resources from state water laws or the jurisdiction and responsibilities with respect to wildlife and fish in the area.

Present Management

These WSAs have been managed to protect wilderness resource values since passage of the Federal Land Policy and Management Act of 1976 (FLPMA). Section 603(c) of FLPMA states:

> During the period of review of such areas and until Congress has determined otherwise the Secretary shall continue to manage such lands according to his authority under this act and other applicable law in a manner so as not to impair the suitability of such areas for preservation as wilderness, subject, however, to the continuation of existing mining and grazing uses and mineral leasing in the manner and degree in which the same was being conducted on the date of approval of this act.

These lands were managed until December 12, 1979 under the State of Colorado interim management policy which parallels FLPMA. As of December 12, 1979 these lands have been managed under the BLM's Interim Management Policy and Guidelines for Lands Under Wilderness Review. This document sets policy and guidelines for BLM management of lands under wilderness review.

Prior to the passage of FLPMA, the Redcloud Peak area was studied for possible BLM designation as a primitive area. The entire American Flats Planning Unit was considered for designation as the American Flats National Resource Lands Management Area. A scenic withdrawal, which would exclude the area from all forms of mineral appropriation, was considered for a 100 to 600 foot strip on either side of the narrow gauge railroad through the Animas Canyon. None of these considerations were made a part of the 1973 American Flats Management Framework Plan.

A scenic withdrawal in association with the "Loop Road" which encircles the Redcloud Peak WSA has been in effect since April 11, 1966.

Private Land Inholdings

Congress should be advised of the existence of 510 acres of private holdings within the eight WSAs. Various combinations of alternatives would contain different amounts of private holdings (see Table 2-1).

The compatibility of these inholdings with the wilderness values of the surrounding public lands may necessitate the need for land acquisition authority pursuant to any applicable wilderness legislation. Acquisition of these inholdings would not be necessary if the properties were used in a manner compatible with the management of the surrounding wilderness.

Interrelationships

Forest Service: The American Flats, Bill Hare Gulch and Larson Creek WSAs share boundaries with the Big Blue Wilderness Area. The Weminuche Contiguous, Whitehead Gulch and Needle Creek WSAs share boundaries with the Weminuche Wilderness Area. Both wilderness areas are administered by the Forest Service. These WSAs are all too small in acreage to qualify as separate wilderness areas. They would, of necessity, become part of their larger neighbors. As yet, there is no administrative agreement between the BLM and the Forest Service as to which agency shall administer any designated wilderness additions to the Big Blue or Weminuche Wilderness areas.

A cooperative agreement, effective as of July 29, 1981, between the Montrose District of the BLM and the San Juan National Forest states that BLM's West Needles Contiguous WSA (CO-030-229A) will be studied by the Forest Service in conjunction with their West Needles Further Study Area (see Appendix 2.1). Another cooperative agreement, effective as of July 22, 1981, between the Montrose District of the BLM and the Grand Mesa, Uncompahgre, and Gunnison National Forests provides that BLM's Sparling Gulch/Friends Creek WSA (CO-030-088/213) and Slumgullion Slide WSA (CO-030-211) will be studied by the Forest Service in conjunction with their Cannibal Plateau Further Planning Area (Appendix 2.2).

TABLE 2-1

LAND STATUS

Wilderness Study Area	Alternative	Acres Gross	Acres Private Land	Acres Net	Acres State Minerals	Acres Withdrawn From Entry
Redcloud Peak	All-Wilderness	40,855	280	40,575	1,730	38,845
	Manageability	37,775	245	37,530	1,330	36,200
	Conflict Resolution I	29,770	90	29,680	1,290	28,390
	Conflict Resolution II	11,190	50	11,140	0	11,140
Handies Peak	All-Wilderness	19,005	145	18,860	600	18,260
	Manageability	8,320	100	8,220	400	7,820
	Conflict Resolution	7,215	95	7,120	0	7,120
American Flats	All-Wilderness	4,710	0	4,710	10	4,700
	Conflict Resolution	1,505	0	1,505	0	1,505
Bill Hare Gulch	All-Wilderness	370	0	370	0	370
	Manageability	325	0	325	0	325
Larson Creek	All-Wilderness	900	0	900	0	900
	Manageability	480	0	480	0	480
Weminuche Contiguous	All-Wilderness	1,985	5	1,980	600	1,380
	Manageability	380	5	375	160	215
Whitehead Gulch	All-Wilderness	6,200	0	6,200	640	5,560
	Manageability	4,115	0	4,115	640	3,475
	Conflict Resolution	1,770	0	1,770	0	1,770
Needle Creek	All-Wilderness	4,620	80	4,540	0	4,540
	Manageability	4,220	60	4,160	0	4,160

These studies will jointly evaluate the area's suitability for wilderness designation and will be addressed through the environmental analysis process via the forest land and resource management planning process. These cooperative agreements are consistent with national policy regarding BLM-FS joint wilderness study procedures (FSM-1530 and WO-163).

A potential Congressional transfer of lands exists between the BLM and Forest Service which would transfer all of the Needle Creek WSA and portions of the Whitehead Gulch, Weminuche Contiguous, and West Needles Contiguous WSAs. A bill has been introduced in the 97th Congress First Session of the House of Representatives (H.R. 3433) which would transfer these lands for administration by the San Juan National Forest. In addition, should these lands be transferred to the Forest Service, a cooperative agreement exists between the Montrose District of the BLM and the San Juan National Forest which insures that these lands shall continue to be studied by the Forest Service for their wilderness suitability (see Appendix 2.3).

State of Colorado: Congress should be advised that the State of Colorado holds the mineral rights, including the rights of access, to 3,580 acres within the Redcloud Peak, Handies Peak, American Flats, Weminuche Contiguous, and Whitehead Gulch WSAs. Exploration and development of any minerals within the concerned lands would be covered under the statutes of the state. The compatibility of these rights with surface management for wilderness values may necessitate the aquisition of the mineral rights involved.

WILDERNESS STUDY AREAS AND ALTERNATIVES

Redcloud Peak (CO-030-208)

All-Wilderness Alternative --- Designation of the entire Redcloud Peak Wilderness Study Area

This alternative would recommend designation of the entire 40,575 acre WSA as described in the Final Intensive Wilderness Inventory (see Map 1-1).

No-Wilderness Alternative (No Action) --- Non-Designation of the entire Redcloud Peak Wilderness Study Area

Under this alternative no acreage would be recommended for wilderness designation (see Map 1-2). Multiple use management as prescribed in the existing Gunnison Basin American Flats/Silverton Management Framework Plan would be implemented.

Wilderness Manageability Alternative --- Designation of 37,530 acres of the Redcloud Peak Wilderness Study Area

Under this alternative 37,530 acres would be recommended for wilderness designation (see Map 1-2). The boundary on the north primarily follows a legal subdivision; on the east parallels either the WSA boundary or topographic features; on the south parallels the WSA boundary, follows a legal subdivision south of Sunshine Peak, and parallels the road right-of-way; and on the west parallels the WSA boundary which is a topographic feature. This alternative reduces the wilderness area to a unit which contains most of the wilderness values within the WSA while excluding some peripheral patented lands south of Henson Creek and north of the Lake Fork of the Gunnison River. The wilderness part of this alternative includes extensive deer, elk, and bighorn sheep habitat as well as the rugged and outstanding scenic portions of the WSA which includes the numerous canyons, ridges, and peaks of the Redcloud Peak unit.

Conflict Resolution Alternative I --- Designation of 29,680 acres of the Redcloud Peak Wilderness Study Area

Under this alternative 29,680 areas would be recommended for wilderness designation (see Map 1-2). This alternative is the same as the Wilderness Manageability Alternative with the exception of the eastern boundary. This boundary is delineated to exclude the area of a proposed preference right lease application by Earth Sciences, Inc., in association with a deposit of alunite. In addition, the eastern boundary of this alternative allows for several potential transportation corridors for the extraction of ore (see Map 1-2).

Conflict Resolution Alternative II (Preferred Alternative) --- Designation of 11,140 acres of the Redcloud Peak Wilderness Study Area

Under this alternative 11,140 acres would be recommended for wilderness designation (see Map 1-2). The northern boundary would follow a ridge line which encloses Cooper Creek and Silver Creek. The eastern boundary would parallel the WSA boundary. The southern boundary would be the same as described in the Widerness Manageability Alternative, and the western boundary would be the western ridge above Cooper Creek. This alternative is seen as a compromise between wilderness and minerals development. The wilderness part of this alternative would include both 14,000 foot peaks; Sunshine and Redcloud, and the primary canyons and drainages associated with these peaks. This alternative would enhance the wilderness manageability alternatives for the adjacent Handies Peak area, would exclude the alunite deposit on Red Mountain, would exclude some other areas of high potential mineral resources, and would exclude all state-owned minerals.

Handies Peak (CO-030-241)

All-Wilderness Alternative --- Designation of the entire Handies Peak Wilderness Study Area

This alternative would recommend designation of the entire 18,860 acre WSA as described in the Final Intensive Wilderness Inventory (see map).

No-Wilderness Alternative (No Action) --- Non-Designation of the entire Handies Peak Wilderness Study Area

Under this alternative no acreage would be recommended for wilderness designation. Multiple use management as prescribed in the existing Gunnison Basin American Flats/Silverton (MFP) would be implemented.

Wilderness Manageability Alternative --- Designation of 8,220 Acres of the Handies Peak Wilderness Study Area

Under this alternative 8,220 acres would be recommended for wilderness designation (see Map 1-2). The boundary would parallel the Lake Fork of the Gunnison River on the north and to the east, and would parallel the Cottonwood Creek Road on the south. The boundary follows a ridge line south of Boulder Gulch and the ridge enclosing Sloan Lake and American Basin. This alternative concentrates designation around Handies Peak and the surrounding glacial valleys including Boulder Gulch, Campbell Creek, Grizzly Gulch, and the head of American Basin. This would exclude the areas around Jones Mountain-Snare Basin and south of Cottonwood Creek. The Cottonwood Creek Road and mineral activity near Jones Mountain-Snare Basin physically separates this area from the Handies Peak portion of the WSA. The boundaries are delineated along topographic features or to exclude mineral development southwest of the WSA.

Conflict Resolution Alternative (Preferred Alternative) --- Designation of 7,120 Acres of the Handies Peak Wilderness Study Area

Under this alternative 7,120 acres would be recommended for wilderness designation (see Map 1-2). This is the same as the Wilderness Manageability Alternative except the northern boundary is delineated to exclude the state-owned minerals north of Whitecross Mountain.

American Flats (CO-030-217)

All-Wilderness Alternative --- Designation of the entire American Flats Wilderness Study Area

This alternative would recommend designation of the entire 4,710 acre WSA as described in the Final Intensive Wilderness Inventory (see Map 1-2).

No-Wilderness Alternative (No Action) --- Non-Designation of the entire American Flats Wilderness Study Area

Under this alternative no acreage would be recommended for wilderness designation. Multiple use management as prescribed in the existing Gunnison Basin American Flats/Silverton MFP would be implemented.

Conflict Resolution Alternative (Preferred Alternative) --- Designation of 1,505 Acres of the American Flats Wilderness Study Area

Under this alternative 1,505 acres would be recommended for wilderness designation (see Map 1-2). The western and northern boundaries of the area are the present Big Blue Wilderness boundaries. The southern boundary essentially parallels the Ouray-Hinsdale County Line and a ridge line above Bear Creek to the southwest. This alternative is an extension of the existing Big Blue Wilderness Area, but deletes all state-owned minerals, high potential mineral resource areas, and the majority of old vehicle ways within the WSA. These lands primarily include drainages flowing toward the Big Blue Wilderness Area. An exception is American Lake which flows into Henson Creek.

Bill Hare Gulch (CO-030-085)

All-Wilderness Alternative --- Designation of the entire Bill Hare Gulch Wilderness Study Area

This alternative would recommend designation of the entire 370 acre WSA as described in the Final Intensive Inventory (see Map 1-2).

No-Wilderness Alternative (No Action) (Preferred Alternative) --- Non-Designation of the entire Bill Hare Gulch Wilderness Study Area

Under this alternative no acreage would be recommended for wilderness designation. Multiple use management as prescribed in the Gunnison Basin American Flats/Silverton MFP would be implemented.

Wilderness Manageability Alternative --- Designation of 325 Acres of the Bill Hare Gulch Wilderness Study Area

Under this alternative 325 acres would be recommended for wilderness designation (see Map 1-2). The western border of the WSA is the Big Blue Wilderness Area. The only portion of the WSA which would be excluded would be the 45 acres north of Bill Hare Gulch which is surrounded on three sides by private land.

Larson Creek (CO-030-086)

All-Wilderness Alternative --- Designation of the entire Larson Creek Wilderness Study Area

This alternative would recommend designation of the entire 900 acre WSA as described in the Final Intensive Inventory (see Map 1-2).

No-Wilderness Alternative (No Action) (Preferred Alternative) --- Non-Designation of the entire Larson Creek Wilderness Study Area

Under this alternative no acreage would be recommended for wilderness designation. Multiple use management as prescribed in the Gunnison Basin American Flats/Silverton MFP would be implemented.

Wilderness Manageability Alternative --- Designation of 480 Acres of the Larson Creek Wilderness Study Area

Under this alternative 480 acres contiguous to the Big Blue Wilderness Area would be recommended for wilderness designation (see Map 1-2). The northern and western boundary is the Big Blue Wilderness Area. The eastern boundary is a continuation of the boundary of the wilderness area. The southern boundary is a legal subdivision line which parallels the current wilderness area boundary. This alternative would exclude an old vehicle way and abandoned cabins within the WSA.

Weminuche Contiguous (CO-030-238B)

All-Wilderness Alternative --- Designation of the entire Weminuche Contiguous Wilderness Study Area

This alternative would recommend designation of the entire 1,980 acre WSA as described in the Final Intensive Wilderness Inventory (see Map 1-2). As the southwest boundary of the WSA is contiguous with the present boundary of the Weminuche Wilderness Area, this proposal would extend the present wilderness boundary north and west to Spencer Basin and include the headwaters of Deer Creek.

No-Wilderness Designation (No Action) --- Non-Designation of the entire Weminuche Contiguous Wilderness Study Area

Under this alternative no acreage would be recommended for wilderness designation. Multiple use management as prescribed in the Gunnison Basin American Flats/Silverton MFP would be implemented.

Wilderness Manageability Alternative (Preferred Alternative) --- Designation of 375 Acres of the Weminuche Contiguous Wilderness Study Area

Under this alternative 375 acres would be recommended for wilderness designation (see Map 1-2). This area's southern and eastern boundaries are contiguous to the existing Weminuche Wilderness Area. The northern and western boundaries follow a ridge line which connects with the existing wilderness area boundary. The majority of potential mineral resources within the WSA would be excluded, but approximately six acres of a patented mining claim and about 250 acres of state-owned minerals with BLM surface administration would be included.

Whitehead Gulch (CO-030-230B)

All-Wilderness Alternative --- Designation of the entire Whitehead Gulch Wilderness Study Area

This alternative would recommend designation of the entire 6,200 acre WSA as described in the Final Intensive Wilderness Inventory (see Map 1-2). As the southern and most of the eastern boundaries of the area are contiguous with the present Weminuche Wilderness Area boundaries, this alternative would essentially be an expansion of the existing wilderness area to the floodplain of the Animas River.

No-Wilderness Alternative (No Action) --- Non-Designation of the entire Whitehead Gulch Wilderness Study Area

Under this alternative no acreage would be recommended for wilderness designation. Multiple use management as prescribed in the Gunnison Basin American Flats/Silverton MFP would be implemented.

Wilderness Manageability Alternative (Preferred Alternative) --- Designation of 4,115 Acres of the Whitehead Gulch Wilderness Study Area

Under this alternative 4,115 acres would be recommended for wilderness designation (see Map 1-2). This alternative is similar to the All-Wilderness Alternative but the northern boundary of the area would be pulled back along topographical lines to coincide with the existing northern boundary of the Weminuche Wilderness Area.

Conflict Resolution Alternative ---Designation of 1,770 Acres of the Whitehead Gulch Wilderness Study Area

Under this alternative 1,770 acres would be recommended for wilderness designation (see Map 1-2). The northern boundary would be the first drainage south of Elk Creek. The remaining boundaries would be the same as the All-Wilderness Alternative. This alternative would exclude the majority of the potential mineral resources in the WSA and would allow for the eastward development of the Elk Park uranium complex.

Needle Creek (CO-030-229B)

All-Wilderness Alternative --- Designation of the entire Needle Creek Wilderness Study Area

This alternative would recommend designation of the entire 4,540 acre WSA as described in the Final Intensive Wilderness Inventory (see Map 1-2). All of this area's western boundary and most of its western and southern boundaries are also the boundaries of the existing Weminuche Wilderness Area.

No-Wilderness Alternative (No Action) --- Non-Designation of the entire Needle Creek Wilderness Study Area

Under this alternative no acreage would be recommended for wilderness designation. Multiple use management as prescribed in the Gunnison Basin American Flats/Silverton MFP would be implemented.

Wilderness Manageability Alternative (Preferred Alternative) --- Designation of 4,160 Acres of the Needle Creek Wilderness Study Area

Under this alternative 4,160 acres would be recommended for wilderness designation. This alternative is essentially the same as the All-Wilderness Alternative with two changes. The northern boundary is pulled back to the edge of the floodplain along the Animas River and the southwestern boundary is pulled back to coincide with the borders of the existing Weminuche Wilderness.

Other Alternatives Considered but Eliminated from Detailed Analysis

American Flats WSA

One comment received suggested the area between Engineer Pass and the south boundary of the WSA be considered as an alternative for study as wilderness. This area was eliminated during the intensive inventory phase and therefore cannot be considered by the BLM during the study phase.

Handles Peak WSA

The area south and east of Cottonwood Creek would marginally satisfy the 5,000 acre requirement. The area of National Forest land to the south was released from wilderness consideration during the RARE II process, and this area of BLM land was not considered to be a manageable wilderness unit because of topography.

One comment (verbal) was received at a workshop held in Lake City, Colorado suggesting that an area between Cottonwood Creek and Campbell Creek be removed from consideration in either the Wilderness Manageability Alternative or the Conflict Resolution Alternative. There are approximately 50 acres of private land within this area. A vehicle way provides access to a portion of these lands. Although the way was originally constructed, it has not been maintained to insure relatively regular and continuous use and therefore cannot be considered a road. This exclusion was considered but was eliminated due to manageability problems both for wilderness and wildlife values.

A proposal was received to include the substantially noticeable way and road in American Basin in one of the alternatives for Handies Peak. This area was excluded during the intensive inventory phase and cannot be considered by the BLM during the study phase.

Redcloud Peak WSA

Originally, the Conflict Resolution I Alternative for this WSA included the Alpine Gulch drainage. The boundary of this alternative was modified as the result of a comment at the Denver workshop that Alpine Gulch was a possible access route for the development of the alunite deposit on Red Mountain. Since the purpose of the original alternative was to provide a non-wilderness alternative for the alunite development and possible transportation routes, the boundary was modified accordingly.

Summary/Comparison of Alternatives

An impact summary and comparison of the alternatives is presented in Table 2-2. For additional detail on impacts, see Chapter 4, Environmental Consequences.

Summary of Accumulative Impacts

An impact summary and comparison of the alternatives is presented in Table 2-2. In addition, Table 2-3 presents a comparative analysis of the cumulative impacts for all of the WSAs under the All-Wilderness Alternative, No-Wilderness Alternative, and Preferred Alternative. For additional detail on impacts, see Chapter 4, Environmental Consequences.

TABLE 2-2

COMPARATIVE ANALYSIS OF IMPACTS FOR THE ALTERNATIVES

WSA/Alternative	Wilderness Resource	Land Status 1/ Private Land Non-Federal Mineral Estate Mining Claims	Mineral Resources	Recreation and Visual Resources	Economics	Vegetation/Water Soils	Wildlife
Redcloud Peak All-Wilderness	40,575 acres would be designated.	280 acres private land. 1,730 acres State minerals. About 950 mining claims.	38,845 acres withdrawn Potential Au, Ag, Pb, Zn, Cu, Mo, U, Th, Be, Mn, F, Al, K. Alunite may be developed with wilderness protection stips.	Slightly increased primitive recreation. Entire area VRM Class I.	$3,420 Unpat. 403 Patented $3,823 Total Tax	Slight increase in soil compaction, vegetative trampling, and degradation of water due to increased recreational use.	Some decline due to increased visitor use.
No-Wilderness	Mineral development could significantly adversely alter the wilderness values.		Entire area open to entry. Alunite may be developed without wilderness protection stips.	Mineral development would reduce primitive recreation. Entire area VRM Class II, subject to potential degradation.		Degradation to soil, water, and vegetation due to mineral development.	Habitat disruption due to mineral development. Increased acidity and siltation would adversely affect aquatic species.
Manageability	37,530 acres would be designated.	245 acres private land. 1,330 acres State minerals. About 900 mining claims.	36,200 acres withdrawn. Potential as above.	Slight increase in primitive recreation. 92% of area VRM Class I.	$ 353 Patented 3,240 Unpat. $3,593 Total Tax	Slight increase in soil compaction, vegetative trampling and degradation of water due to increased recreational use.	Some decline due to increased visitor use.

TABLE 2-2

COMPARATIVE ANALYSIS OF IMPACTS FOR THE ALTERNATIVES
(Continued)

WSA/Alternative	Wilderness Resource	Land Status Private Land Non-Federal Mineral Estate Mining Claims	Mineral Resources	Recreation and Visual Resources	Economics	Vegetation/Water Soils	Wildlife
Redcloud Peak Conflict Resolution I	29,680 acres would be designated.	90 acres private land. 1,290 acres State minerals. About 750 mining claims.	28,390 acres withdrawn. Potential as above. Alunite as in No-Wilderness.	Slightly increased primitive recreation. 73% of area VRM Class I.	$ 288 Patented 2,700 Unpat. $2,988 Total Tax	No-designated portion; degradation to soils, water, and vegetation due to mineral development.	Non-designated portion; habitat disruption and increased acidity and siltation as a result of mineral development.
Conflict Resolution II (Preferred Alternative)	11,140 acres would be designated. A majority of the WSA could be adversely affected by mineral development.	50 acres Private Land. About 400 mining claims.	11,140 acres withdrawn. Potential Au, Ag, Pb, Zn, Cu, U, Mo.	Recreation; no significant change overall. 27% of area VRM Class I.	$ 72 Patented 1,440 Unpat. $1,512 Total Tax	Same as above.	Same as above.
Handies Peak All-Wilderness	18,860 acres would be designated.	145 acres private land. 600 acres State minerals. 160 mining claims.	18,260 acres withdrawn. Potential Au, Ag, Cu, Pb, Zn, Mo, Ni, Co.	Slightly increased primitive recreation. Entire area VRM Class I.	$ 209 Patented 576 Unpat. $ 785 Total Tax	Slight increase in soil compaction, vegetative trampling, and degradation of water due to increased recreational use.	Some decline due to increased visitor use.

TABLE 2-2

COMPARATIVE ANALYSIS OF IMPACTS FOR THE ALTERNATIVES
(Continued)

WSA/Alternative	Wilderness Resource	Land Status Private Land Non-Federal Mineral Estate Mining Claims	Mineral Resources	Recreation and Visual Resources	Economics	Vegetation/Water Soils	Wildlife
Handies Peak No-Wilderness	Mineral development could significantly alter the wilderness values.		Entire area open to entry. Possible development of resources.	Mineral development would reduce primitive recreation. Entire area VRM Class II, subject to degradation.		Degradation to soils, water and vegetation due to mineral development.	Habitat disruption of increased acidity of siltation as a result of mineral development.
Manageability	8,220 acres would be designated.	100 acres private land. 400 acres State minerals. 135 mining claims.	7,820 acres withdrawn. Same commodities as above.	Slightly increased primitive recreation. 43% of area VRM Class I.	$ 144 Patented 486 Unpat. $ 630 Total Tax	Non designated portion same as above.	Non-designated portion same as above.
Conflict Resolution (Preferred Alternative)	7,120 acres would be designated.	95 acres private land. 125 mining claims.	7,120 acres withdrawn as above.	Recreation is same as above. 37% of area VRM Class I.	$ 137 Patented 450 Unpat. $ 587 Total Tax	Same as above.	Same as above.
American Flats All-Wilderness	4,710 acres would be designated.	10 acres State minerals. 44 mining claims.	4,700 acres withdrawn. Potential Au, Ag, Pb, Zn, Cu, Mo.	Recreation; no significant change. Entire area VRM Class I.	$ 158 Unpat. $ 158 Total Tax	No significant change.	No significant change.

TABLE 2-2

COMPARATIVE ANALYSIS OF IMPACTS FOR THE ALTERNATIVES
(Continued)

WSA/Alternative	Wilderness Resource	Land Status Private Land Non-Federal Mineral Estate Mining Claims	Mineral Resources	Recreation and Visual Resources	Economics	Vegetation/Water Soils	Wildlife
American Flats No-Wilderness	Mineral development could significantly alter the wilderness values.		Entire area open to entry. Possible development of resources.	Mineral development would reduce primitive recreation. Entire area VRM Class II, subject to degradation.		Degradation to soils, water, and vegetation due to mineral development.	Habitat disruption, increased acidity and siltation as a result of mineral development.
Conflict Resolution (Preferred Alternative)	1,505 acres would be designated.	3 mining claims.	1,505 acres withdrawn. Low potential.	Recreation: no significant change. 32% of area VRM Class I.	$ 11 Unpat. $ 11 Total Tax	Non-designated portion same as above.	Non-designated portion same as above.
Bill Hare All-Wilderness	370 acres would be designated.		370 acres withdrawn. No identified potential.	Recreation; same as above. Entire area VRM Class I.		No significant change.	No significant change.
No-Wilderness (Preferred Alternative)			Area open to entry. No identified potential.	Recreation; same as above. Entire area VRM Class II.		Same as above.	Same as above.
Manageability	325 acres would be designated.		325 acres withdrawn. No identified potential.	Recreation; same as above. 88% of area VRM		Same as above.	Same as above.

TABLE 2-2

COMPARATIVE ANALYSIS OF IMPACTS FOR THE ALTERNATIVES
(Continued)

WSA/Alternative	Wilderness Resource	Land Status Private Land Non-Federal Mineral Estate Mining Claims	Mineral Resources	Recreation and Visual Resources	Economics	Vegetation/Water Soils	Wildlife
Larson All-Wilderness	900 acres would be designated.		900 acres withdrawn. Low mineral potential.	Recreation; same as above. Entire area VRM Class I.		No significant change.	No significant change.
No-Wilderness (Preferred Alternative)			Area open to entry. Low potential.	Recreation; same as above. Entire area VMR Class II.		Same as above.	Same as above.
Manageability	480 acres would be designated.		480 acres withdrawn. Low potential.	Recreation; same as above. 53% of area VRM Class I.		Same as above.	Same as above.
Weminuche Contiguous All-Wilderness	1,980 acres would be designated.	5 acres private land. 600 acres State minerals. 18 mining claims.	1,380 acres withdrawn. High potential for Cu, Pb, Zn, Au, Ag.	Recreation; same as above. Entire area VRM Class I.	$ 20 Patented 144 Unpat. $ 164 Total Tax	No significant change.	No significant change.
No-Wilderness	Mineral development could significantly alter the wilderness value.		Entire area open to entry. Possible development of identified commodities.	Mineral development could reduce primitive recreation. Entire area VRM Class II, subject to degradation.		Degradation to soils, water and vegetation due to mineral development.	Habitat disruption and increased acidity and siltation as a result of mineral development.

TABLE 2-2

COMPARATIVE ANALYSIS OF IMPACTS FOR THE ALTERNATIVES
(Continued)

WSA/Alternative	Wilderness Resource	Land Status Private Land Non-Federal Mineral Estate Mining Claims	Mineral Resources	Recreation and Visual Resources	Economics	Vegetation/Water Soils	Wildlife
Wemlnuche Contiguous Manageability (Preferred Alternative)	375 acres would be designated.	5 acres private land. 160 acres State minerals. 1 mining claim.	215 acres withdrawn. Moderate potential for Cu, Pb, Zn, Au, Ag.	Recreation; no significant change. 19% of area VRM Class I.	$ 20 Patented 8 Unpat. $ 28 Total Tax	Non-designated portion same as above.	Non-designated portion same as above.
Whitehead Gulch All-Wilderness	6,200 acres would be designated.	640 acres State minerals. 70 mining claims.	5,560 acres withdrawn. High potential for Cu, Pb, Zn, Au, Ag, U, W.	Recreation; no significant change. Entire area VRM Class I.	$ 560 Unpat. $ 560 Total Tax	No significant change.	No significant change.
No-Wilderness	Mineral development could significantly alter the wilderness value.		Area open to entry. Possible development of resources.	Mineral development could reduce primitive recreation. Entire area VRM Class II, subject to degradation.		Degradation to soils, water, and vegetation due to mineral development.	Habitat disruption and increased acidity and siltation was a result of mineral development.
Manageability (Preferred Alternative)	4,115 acres would be designated.	640 acres State minerals. 60 mining claims.	3,475 acres withdrawn. High potential U. Moderate potential Au, Ag, Pb, Zn, Cu.	Recreation; no significant change. 66% of area VRM Class I.	$ 480 Unpat. $ 480 Total Tax	Non-designated portion same as above.	Non-designated portion same as above.

TABLE 2-2

COMPARATIVE ANALYSIS OF IMPACTS FOR THE ALTERNATIVES
(Continued)

WSA/Alternative	Wilderness Resource	Land Status Private Land Non-Federal Mineral Estate Mining Claims	Mineral Resources	Recreation and Visual Resources	Economics	Vegetation/Water Soils	Wildlife
Whitehead Gulch Conflict Resolution	1,770 acres would be designated.	30 mining claims.	1,770 acres withdrawn. Moderate potential U.	Mineral development could reduce primitive recreation. 28% of area VRM Class I.	$ 240 Unpat. $ 240 Total Tax	Same as above.	Same as above.
Needle Creek All-Wilderness	4,540 acres would be designated.	80 acres private land. 143 mining claims.	4,540 acres withdrawn. Moderate potential U, Cu, Pb, Zn, Au, Ag.	Recreation; no significant change. Entire area VRM Class I.	$ 102 P-LaPlata 79 P-SanJuan 524UP-LaPlata 528UP-SanJuan $1,233 Total Tax	No significant change.	No significant change.
No-Wilderness	Mineral development would significantly alter the wilderness values.		Area open to entry. Possible development of resources.	Mineral development could reduce primitive recreation. Entire area VRM Class II, subject to degradation.		Degradation to soils, water, and vegetation due to mineral development.	Habitat disruption and increased acidity and siltation as a result of mineral development.
Manageability (Preferred Alternative)	4,160 acres would be designated.	60 acres private land. 143 mining claims.	4,160 acres withdrawn. Impacts as above.	Recreation; no significant change. 91% of area VRM Class I.	$ 102 P-LaPlata 528UP-SanJuan 524UP-LaPlata $1,154 Total Tax	No significant change.	No significant change.

TABLE 2-3

COMPARATIVE ANALYSIS OF CUMULATIVE IMPACTS FOR THE ALL-WILDERNESS, NO-WILDERNESS, AND PREFERRED ALTERNATIVES

Alternative	Wilderness Resource	Land Status	Mineral Resource	Recreation and Visual Resources	Economics	Vegetation/Water Soils	Wildlife
All-Wilderness	78,135 acres would be designated.	510 acres of private land. 3,580 acres State minerals. About 1,385 mining claims.	74,555 acres withdrawn.	Slightly increased primitive recreation. Entire area VRM Class I.	$ 813 Patented 5,910 Unpat. $6,723 Total Tax	Slight increase in soil compaction, vegetative trampling, and degradation of water due to increased recreational use.	Some decline due to increased visitor use.
No-Wilderness	Mineral development could significantly adversely alter the wilderness values.		Entire area open to entry.	Mineral development would reduce primitive recreation. Entire area VRM Class II, subject to potential degradation.		Degradation to soil, water, and vegetation due to mineral development.	Habitat disruption due to mineral development. Increased acidity and siltation would adversely affect aquatic species.
Preferred Alternative	28,415 acres would be designated.	210 acres of private land. 800 acres State minerals. About 732 mining claims.	27,615 acres withdrawn.	Slight increase in primitive recreation. 36% of area VRM Class I.	$ 331 Patented 3,441 Unpat. $3,772 Total Tax	Slight increase in soil compaction, vegetative trampling and degradation of water due to increased recreational use.	Some decline due to increased visitor use.

CHAPTER 3

AFFECTED ENVIRONMENT

Introduction

The majority of the wilderness areas located in the contiguous United States are found within the mountainous portions of the western United States. Predominantly, these areas are located in the Pacific Forest Province, Sierran Forest Province, and Rocky Mountain Forest Province as classified by the Bailey-Kuchler System ("Ecosystems of the United States"). Within the context of the Bailey-Kuchler System, the WSAs considered in this document are within the southwestern spruce-fir forest or alpine meadows and barren vegetative classification of the Rocky Mountain Forest Province. The Rocky Mountain Forest Province includes at least a portion of most of the western states: Colorado, New Mexico, Wyoming, Utah, Montana, Idaho, Oregon, and Washington.

The present National Wilderness Preservation System (NWPS) is well represented in the Rocky Mountain Province. The majority of the mountain designated wilderness areas include large acreages of the southwestern spruce-fir forest, alpine meadows, and barren vegetative classification types. As of 1980, in the state of Colorado, there were 27 designated wilderness areas totalling 2,672,491 acres. This is approximately four percent of the total land area within the state.

All of the WSAs considered here lie within the northern half of the San Juan Mountains in the region known as Southwest Colorado. The region's economy is based primarily upon ranching, farming, mining, recreation, and tourism.

There are presently 12 designated wilderness areas found within or partly within this region (see Appendix 3.1).

In addition, 19 areas within this region are undergoing study for possible recommendation to Congress for wilderness designation (see Appendix 3.2).

All of the WSAs within the Gunnison Basin and American Flats/Silverton Planning Areas are marginally within a day's driving time of major population centers (Standard Metropolitan Statistical Areas). These SMSAs in Colorado are Denver, Boulder, Colorado Springs, and Pueblo. There are presently 18 designated wilderness areas and 29 areas undergoing study for possible wilderness designation within a day's driving time of these major population centers (see Appendix 3.3).

The Southwest Colorado region is a high recreation use area and thus has a highly fluctuating seasonal population; high summer season visitation and high winter season visitation at ski area resorts and towns. The largest population centers in Southwest Colorado are:

Town	1970 Population	1980 Population
Durango	10,333	10,450
Montrose	6,496	8,668
Cortez	6,032	7,004
Gunnison	4,613	5,780
Delta	3,694	3,925

The population of Southwest Colorado in 1970 was estimated at 87,000 residents. As of 1980, there is an estimated 100,000 residents within this region. The majority of residents are within a one-to-two hour drive of a designated wilderness area. Grand Junction (pop. 28,128) is outside of the regional boundaries and is the largest town on the West Slope of Colorado. It is within a one-to-two hour driving time of several designated wilderness areas. In addition, commercial airlines provide transportation service to the communities of Grand Junction, Aspen, Gunnison, Durango, Montrose, and Cortez.

All of the WSAs considered in this document would indirectly affect the expansion of opportunities for solitude or primitive recreation by increasing the wilderness acreage near lands presently designated as wilderness and used by wilderness recreationists. The Whitehead Gulch, Weminuche Contiguous, and Needle Creek WSAs are in an area of Colorado that includes the 467,400 acre Weminuche Wilderness Area and the 108,486 acre La Garita Wilderness Area. The Redcloud Peak, American Flats, Handies Peak, Bill Hare Gulch and Larson Creek WSAs are in an area of Colorado that includes the 97,700 acre Big Blue Wilderness Area, the 44,951 acre Powderhorn Primitive Area, the 108,486 acre La Garita Wilderness Area, the 60,000 acre Lizard Head Wilderness Area, and the 16,200 acre Mt. Sneffels Wilderness Area.

These WSA's are being examined as a group in this document since they share many ecological and economic characteristics. This chapter will first consider all of the resource values held in common by the WSA's. Those resources that differ from one area to another will then be described by WSA.

Common Resource Values - All WSAs

Air

This planning area contains several areas which are classified as Class I air quality increments by the Clean Air Act Amendments of 1977. They include the Weminuche Wilderness Area, La Garita Wilderness Area, and the West Elk Wilderness Area. In addition, one area, the BLM Powderhorn Primitive Area, was proposed as Class I on June 25, 1980 by the Department of the Interior. The United States Department of Agriculture proposed two additional areas for Class I (the Uncompahgre Primitive and the Wilson Mountain Primitive areas) (Federal Register Vol. 45, No. 124, pgs. 43002-43007). Both of these areas were designated as Wilderness in December, 1980. All remaining lands in the area have been designated as Class II air quality management areas.

The establishment of these air quality classes provides given standards for sulfur dioxide that will be allowed within the area for given periods of time. These standards can be found in the Clean Air Act as Amended, August, 1977 and the Colorado Air Quality Control Act, 1979.

Currently, there are no significant sources of pollution within the immediate area of the wilderness study areas. Minor local sources of pollution (smoke, dust, etc.,) occur due to landfill burning and the unpaved roads in the areas.

Soils

The soil survey of the Gunnison Area, Colorado (SCS 1975) encompasses Bill Hare Gulch and Larson Creek WSAs. Redcloud Peak, Handies Peak, American Flats, Weminuche Contiguous, Whitehead Gulch, and Needle Creek WSAs do not have detailed soil surveys. The general soil maps for Hinsdale and San Juan counties cover these areas except for a portion of the Needle Creek WSA which will be included in the Animas Area Survey.

The subalpine forests, which are associated with the Posant-Woodhall-Stony rock land association and Cryoboralfs, have low natural erosion rates, less than 0.1 ton/acre/year. While quantifiable data are lacking for the alpine areas, soil erosion is dependent upon soil surface texture, slope, climatic factors, and the amount of bare soil.

Breaks in the vegetative ground cover of a soil can result in greatly accelerated erosion. This is especially critical on the steep alpine areas. These fragile areas are very slow to heal due to their extreme temperature fluctuations, short growing season, high winds, and intense solar radiation.

Water Resource

The Redcloud Peak and Handies Peak WSAs contain much of the headwaters of the Lake Fork of the Gunnison River and its tributaries; most notably Henson Creek. Within a national perspective, these headwaters are a portion of the Colorado River System.

The average flow of the Colorado River since 1922 has been 13,700,000 acre-feet of water per year. Originally the Bureau of

Reclamation overestimated the flow at 18,000,000 acre-feet per year. In addition, the Colorado River Compact agreed to allow 7,500,000 acre-feet per year to pass by Lee's Ferry. Thus, this leaves only an average of 6,200,000 acre-feet per year for Upper Basin development. This amount is also subject to a treaty with Mexico guaranteeing 1,500,000 acre-feet per year of Colorado River water (Vanderbusche, Smith 1981).

Approximately 2.6 percent of the Upper Colorado River Basin waters either originates or travels through these eight WSAs included within this study. The Upper Colorado River Basin water is of critical regional concern to the arid Western Slope of Colorado. Thus, the water originating in or passing through are significant at a local and regional level as future demands are placed on the water resource.

Visual Resources

All eight WSA's covered in this EIS have been designated for visual resource management Class II. This classification allows for changes to their landscape features provided these changes are not dominant.

The Redcloud Peak, Handies Peak, American Flats, Weminuche Contiguous, Whitehead Gulch and Needle Creek WSAs are characterized by outstanding scenic quality "A" composed of high alpine ridges and peaks, rolling flats and steep forested slopes dissected by stream canyons, and dotted by small alpine lakes.

Bill Hare Gulch and Larson Creek border the Lake Fork Valley on the west with steep talus slopes, cliffs and low rounded ridges and peaks ascending to alpine elevations in the Big Blue Wilderness Area further west.

The degree of modifications in all the WSA's is minimal and overall sensitivity to visual changes is high.

Bill Hare and Larson Creek lie adjacent to a primary state highway travelled by thousands of vacationists and sightseers during the summer and fall.

The Loop Road along Henson Creek and the Lake Fork provides diverse viewing of Redcloud Peak, Handies Peak and American Flats.

The Weminuche Contiguous, Whitehead and Needle Creek lie adjacent to the historic narrow-gauge railroad along the Animas River, with views consisting primarily of the canyon walls.

The study area's landscape character includes sight scenic quality rating units, each with similar landform and vegetation patterns for each appropriate WSA (see Appendix 3.4 and 3.5).

Terrestrial Wildlife

The WSAs contain habitats used by numerous wildlife species. Review of the Colorado Division of Wildlife's Latilong Studies for bird, mammal, reptile, and amphibian distributions (Kingery and Grand 1978, Bissell 1978, and Langlois 1978) as compiled by Ireland (1981) indicates that the WSAs, as a whole, have the habitat potential of supporting 228 species of birds, 53 mammal species, and up to eight species of reptiles and amphibians. An alphabetical listing of these species, the habitats used, and their relative abundance are portrayed in Appendix 3.8.

Of the 289 potential species, only 114 (68 birds, 44 mammals, and 2 reptiles or amphibians) should be considered as typically occurring in the high elevation habitats common in these WSAs.

There are no known resident populations of federally endangered species within the WSAs. During migrations, however, whooping cranes, peregrine falcons and bald eagles might be seen in the area.

Aquatic Wildlife

Several miles of the streams associated with the WSAs contain fisheries consisting primarily of brook and rainbow trout. Although no intensive inventory data is available on many of the smaller tributaries within the WSAs, extensive surveys indicate these tributaries may provide conditions suitable for supporting trout populations. The Colorado Division of Wildlife supplements some of the fisheries through stocking programs.

Geology and Mineral Deposits

The northern San Juan Mountains are characterized by a period of volcanic eruptions which took place during the Tertiary period. Volcanic activity first began about 30 million years ago and then subsided about 22 million years ago, with only sporadic eruptions for several million years thereafter. Associated with this period of volcanic activity, large areas were subjected to doming and subsequent collapse, forming features known as calderas. In some cases, multiple episodes of doming, collapse, and resurgence occurred. During this violent period, certain areas were subjected to alteration by hydrothermal solutions and to injection of ore-bearing fluids which crystallized upon cooling.

The resulting mineralized areas associated with this highly active volcanic region were and still are responsible for a large part of the total state mineral production. The following table, adapted from the USGS publication Mineral Investigation Map MR-58, represents the value of minerals produced in the general area of the WSAs being considered. Production values are expressed in dollar value at the time of production, a period from the late 1800s to 1970. Since the values of metals, particularly gold and silver, have increased sharply since 1970, the value of these commodities at current metal prices would be at least ten times the values shown.

County	Mining District	Total Production
Hinsdale	Henson Creek	$ 9,249,900
	Lake Fork	1,995,600
Ouray	Red Mountain	17,253,550
	Sneffels	47,726,500
	Uncompahgre	65,986,560
San Juan	Animas	59,702,100
	Eureka	79,179,568
San Miguel	Ophir	7,576,453
	Telluride	256,177,100
Dolores	Rico	48,292,399
La Plata	La Plata	5,806,662
Mineral	Creede	80,614,014
	TOTAL	$679,520,356

The four mining districts in the immediate area of the WSAs, Animas, Lake Fork, Eureka, and Henson Creek had a combined total production value to 1970 of 150 million dollars. This figure, adjusted to current metal prices would be in excess of 1.5 billion dollars.

Current mineral exploration, both within the areas under wilderness review and in adjacent areas, shows a renewed interest in the precious metals and associated base metals which were produced historically in the region, and an interest in other metals which have been shown to have the potential for existing in economic deposits.

Standard Metals Company (at Howardsville) is the only major milling facility in the general area. They report the total value of concentrates for the three month period April to June, 1981 at about 6.4 million dollars.

A system for evaluating mineral potential was suggested at the workshop held in Denver, August 18, 1981 and has been adopted for use in this analysis. This system appears in Appendix 3.8.

Recreation

Within each Wilderness Study Area (WSA), different opportunities for primitive and unconfined types of recreation exist. These different opportunities can be recognized and classified according to the types of experiences that can be achieved in a particular setting.

Six broad classes of recreation can be identified on a spectrum or continuum. They are classified according to such factors as remoteness, size, amount of resource alteration, user density and managerial constraints. The Bureau's WSA may include up to five of these classes, indicated as follows:

*Primitive
Semi-Privitive (Non-Motorized)
Semi-Primitive (Motorized)
Roaded Natural
Rural

*The names of these classes do not imply the presence nor the absence of such things as ways, motorized use, or other resource alterations.

Types of activities available from area to area within each WSA are relatively similar. However, the environmental settings for these activities may vary widely. Recreation opportunity classes describe these differences in setting.

By comparing the relative percentages of each recreation opportunity class that would be included in the various alternatives, effects on potential wilderness users, and on the types of management that could be applied, can be described. Appendix 4.5 illustrates how those recreation opportunity classes can be used to depict the variety of primitive and unconfined recreation included in each WSA alternative.

Social-Economic

Sociological Analysis

The eight WSAs can be grouped into three lots for the purpose of discussing the social conditions and local and national attitudes concerning wilderness designation of these areas. The WSAs are grouped by similar location and conflicts or concerns. The first group, to be referred to as the Redcloud Peak group, consists of the Redcloud Peak, American Flats, and Handies Peak WSA units. The Animas River group includes the Needle Creek, Whitehead Gulch and Weminuche Contiguous WSA units. The Big Blue group refers to the Larson Creek and Bill Hare Gulch WSA units.

Local attitudes as to wilderness designation are mixed. There is strong opposition to halting mineral production in the units. Development of the mineral potential is viewed as a means of keeping the local communities, counties, and residents economically stable, if not prosperous. There is sentiment that this region already has enough land designated as wilderness, and a fear that further designations will mean strict use curtailments and economic hardship to local landowners. Nonetheless, there exists a segment of the local population which views these lands as worthy of protection but is uncertain as to the form that protection should take. National sentiment is also divided along the development/preservation lines.

Economic Analysis

Economic interest in the WSAs involves their use for grazing, mineral and timber production, recreation, and as taxable assets. Federal funds and property taxes will be discussed here and then in more specific form by WSA. Since federal funds and property taxes are collected on a county basis, they will be discussed by county rather than by WSA.

Hinsdale County:	Redcloud Peak, Handies Peak, Bill Hare Gulch and Larson Creek, and part of American Flats
Ouray County:	Part of American Flats
San Juan County:	Whitehead Gulch, Weminuche Contiguous, and part of Needle Creek
La Plata County:	Part of Needle Creek

Public Funds and Property Taxes

Hinsdale County

Federal Funds: Federal Payment in Lieu of Taxes (PILT) funds for Hinsdale County in 1980 was $27,777. This was paid on a total public land acreage of 667,163 acres of which BLM administers 107,908 acres. Thus, BLM's share was $4,444. Unless there occurs a change in the PILT program, these funds would continue.

Property Taxes: Both patented lands and unpatented mining claims are taxed as private property within the county of jurisdiction. Redcloud Peak and Handies Peak WSAs in particular contain numerous mining claims. Hinsdale County collected approximately $4,770 in 1980 from patented lands and mineral claims within the WSAs in its jurisdiction.

San Juan County

Federal Funds: In 1980, San Juan County collected $26,528 in PILT funds, of which BLM's share was $5,592. Unless there occurs a change in the PILT program, these funds will continue.

Property Taxes: Both patented lands and unpatented mining claims are taxed as private property by the counties of jurisdiction. San Juan County collected approximately $1,330 in property taxes in 1980 from patented lands and mineral claims within the WSAs in its jurisdiction.

La Plata County

Federal Funds: In 1980, La Plata County collected $255,279 in PILT funds, of which BLM's share was $17,728. Unless there occurs a change in the PILT program, these funds will continue.

Property Taxes: La Plata County collected approximately $626 in property taxes in 1980 from mineral claims within the part of the Needle Creek WSA in its jurisdiction.

Ouray County

Federal Funds: In 1980, Ouray County collected $88,716 in PILT funds, of which BLM's share was $19,958. Unless there occurs a change in the PILT program, these funds will continue.

Property Taxes: Ouray County collected approximately $11 in property taxes in 1980 from mineral claims within the part of the American Flats WSA in its jurisdiction.

REDCLOUD PEAK

Resources that differ

Topography

The Redcloud Peak Wilderness Study Area (WSA) is an area of about 62 square miles of steep, mountainous topography bounded on three sides by major stream drainages and internally drained by smaller streams radiating from a central ridge of mountain peaks. Elevation varies from about 8,800 feet to 14,000 feet, with extensive areas above timber line at approximately the 12,000 foot contour.

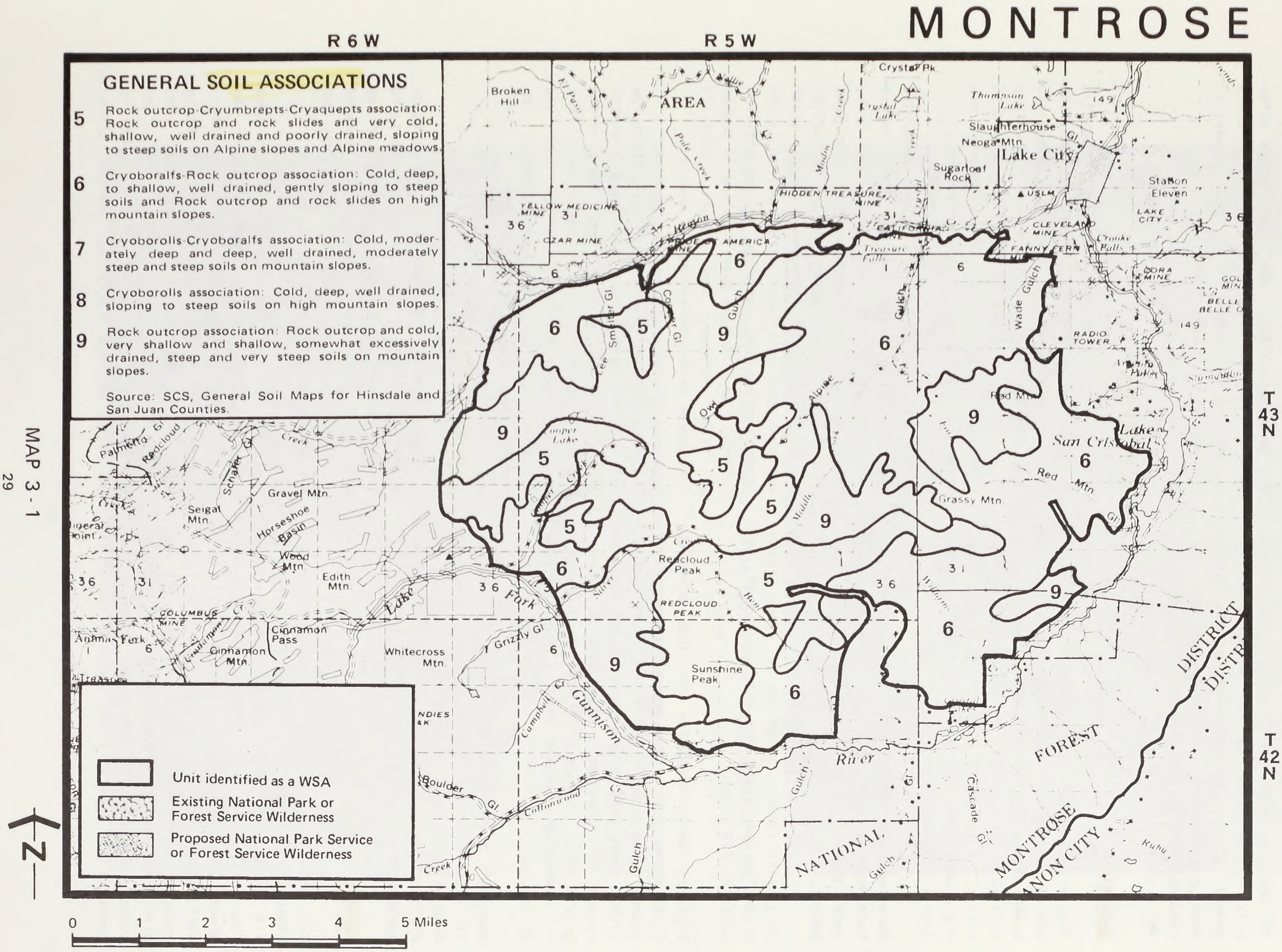
Soils

The Redcloud Peak WSA consists of three primary soil associations (see Map 3-1). The lower elevation peripheries consist primarily of the Cryoboralfs-Rock Outcrop association. The core of the WSA and higher elevations consists of the Rock Outcrop-Cryumbrepts-Cryaquepts and Rock Outcrop association; which are generally shallow, well drained, and difficult to revegetate after disturbance.

Water Resource

The southern portion of the WSA drains into the Lake Fork and the northern portion drains into Henson Creek, both of which are tributary to the Gunnison River. The overall drainage pattern is radial, while individual stream patterns are dendritic to trellis. Stream gradients are very steep.

Water quality varies considerably throughout the area. Samples from Bent Creek and Copper Gulch indicate high water quality in these streams; however, the samples were not analyzed for heavy metals. Concentrations of lead and cadmium in excess of state and federal drinking water standards were found in Owl Gulch, Alpine Gulch, and Cooper Creek. Manganese in excess of drinking water standards was found in Cooper Creek and Silver Creek. Because of wildlife, livestock grazing, and recreation use in the area there is a possibility of contamination of surface waters by fecal pathogens.



GENERAL SOIL ASSOCIATIONS

5 Rock outcrop-Cryumbrepts-Cryaquepts association: Rock outcrop and rock slides and very cold, shallow, well drained and poorly drained, sloping to steep soils on Alpine slopes and Alpine meadows.

6 Cryoboralfs-Rock outcrop association: Cold, deep, to shallow, well drained, gently sloping to steep soils and Rock outcrop and rock slides on high mountain slopes.

7 Cryoborolls-Cryoboralfs association: Cold, moderately deep and deep, well drained, moderately steep and steep soils on mountain slopes.

8 Cryoborolls association: Cold, deep, well drained, sloping to steep soils on high mountain slopes.

9 Rock outcrop association: Rock outcrop and cold, very shallow and shallow, somewhat excessively drained, steep and very steep soils on mountain slopes.

Source: SCS, General Soil Maps for Hinsdale and San Juan Counties.

☐	Unit identified as a WSA
▨	Existing National Park or Forest Service Wilderness
▨	Proposed National Park Service or Forest Service Wilderness

MAP 3 - 1

The domestic water supply for the town of Lake City is furnished by two wells which tap ground water. The watersheds of the Handies Peak and Redcloud Peak WSAs are partially responsible for the recharge of this ground water supply.

Vegetation

Vegetation varies with altitude, from mixed coniferous forest and aspen occupying the lower slopes to alpine tundra, consisting of high-altitude species of grasses, forbs and shrubs, in the higher elevations. Many areas are above timber line and are steep, rocky and devoid of vegetation.

Forested areas in this WSA extend from 8,600 feet to the 12,200 foot contour. Tree species vary primarily with elevation and slope aspect.

Douglas-fir occurs primarily on steep, rocky slopes between 8,600 feet and 10,000 feet, and occupies 599 acres.

Engelman spruce-subalpine fir type occupies 7,742 acres in drainage bottoms and on lower slopes between 9,500 and 11,000 feet. Above 11,000 feet, this type is nearly pure Engelman spruce and takes on a Krummholtz or stunted growth form. Spruce-fir timber is in mature to over-mature stands with a multi-storied structure.

There are 5,494 acres of aspen within the WSA. It occurs primarily on slopes that were denuded of timber in the past by fire or avalanche or occupies sites which cannot support other species.

Terrestrial Wildlife

This WSA contains extensive elk and bighorn sheep summer ranges which support an estimated 213 elk and 21 bighorn sheep. In addition, localized mule deer summer range supports about 120 deer along the eastern and northeastern portion of the WSA. The area contains winter range for an estimated 33 elk along its eastern edge and for 16 bighorn sheep along its southern edge. While summer range is not generally the limiting factor in big game populations, the winter range often is. Thus the area's summer range could support larger numbers of big game animals if the winter range were available.

Aquatic Wildlife

There are approximately 40 miles of aquatic and riparian habitat within the Red Cloud Peak WSA that have not, to date, been adequately inventoried. Part of the aquatic objectives of the Gunnison Basin Habitat Management Plan (HMP) will be to inventory these streams and determine their aquatic/riparian values.

Water quality is generally poor; primarily because of naturally occurring heavy metals leaching out of the soil within the area. According to 1979 "spot check" inventories, Bent Creek has good aquatic/riparian habitat and a fairly productive fishery. Alpine Gulch has some fair aquatic/riparian habitat in the lower portion and contains an unquantified fishery. No fish have been observed in Cooper or Silver Creeks, and current data is inadequate to determine habitat quality.

The remainder of the tributaries within the WSA have not been investigated, and a search of Colorado Division of Wildlife's files indicated there was no data available at this time. Approximately 95 percent of the estimated 40 miles of aquatic habitat run through lands administered by BLM.

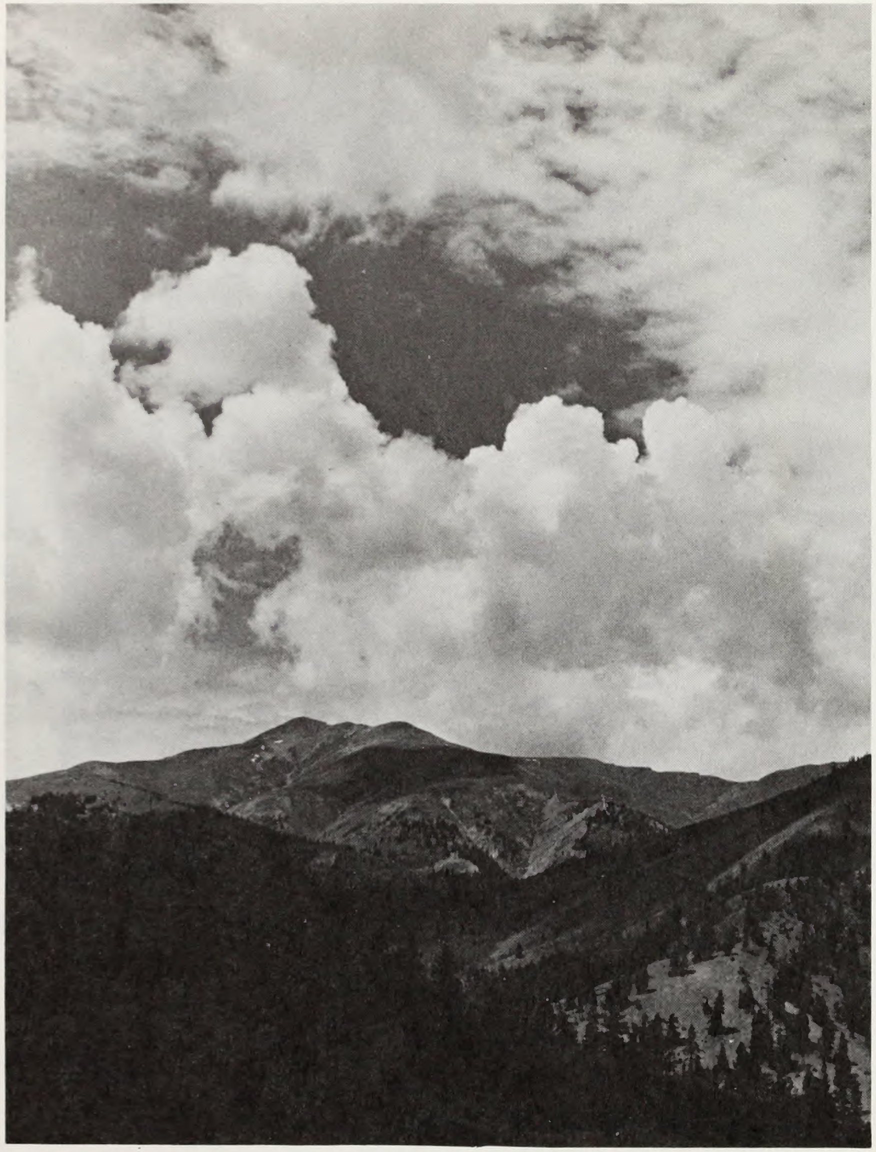
Wilderness Resource

The Redcloud Peak WSA contains 40,575 acres of which approximately 280 acres are private mineral patents within the boundaries of the WSA. Approximately 1,730 acres of state-owned minerals with the surface administered by BLM are also within the boundaries.

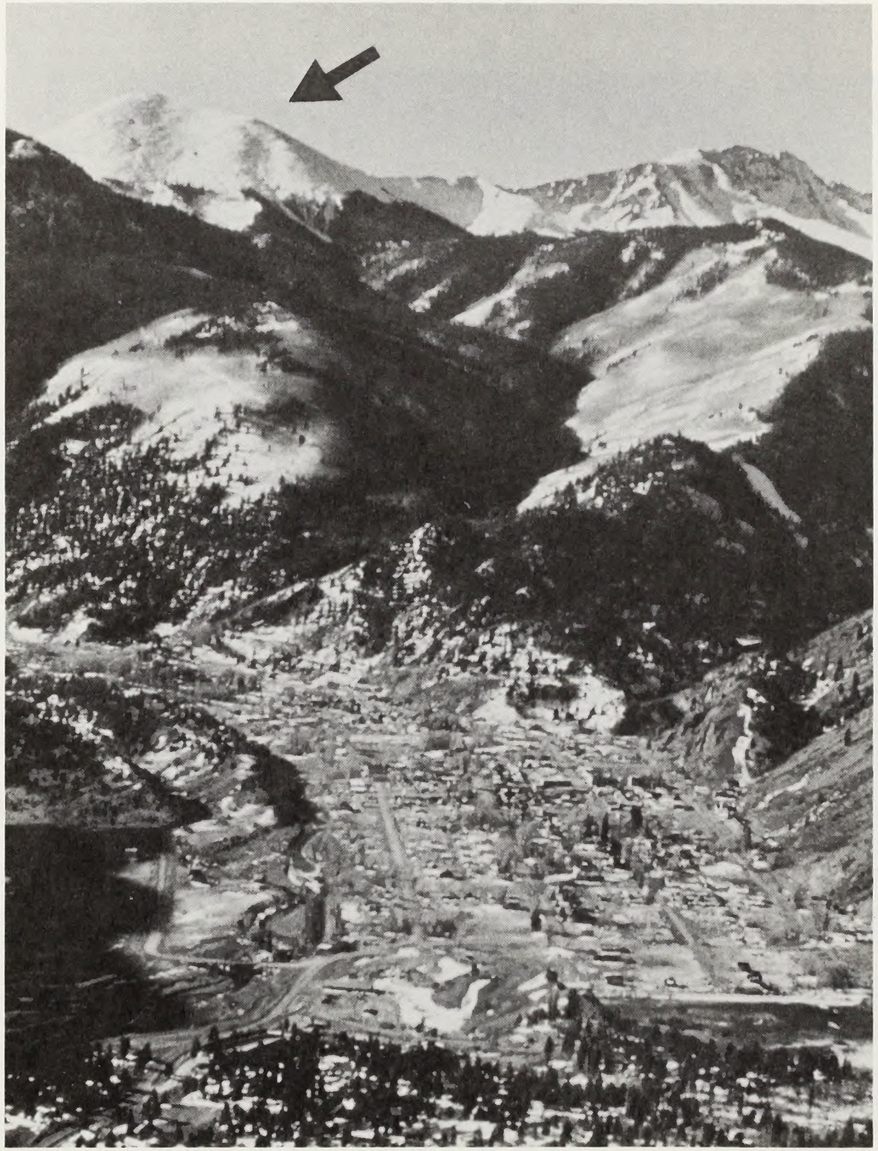
The area includes the majority of the Lake Fork Mountains, an extremely rugged and colorful chain of volcanic mountains within the Lake City Caldera. It is characterized by numerous 13,000 foot mountain peaks and ridges. Redcloud Peak, 14,034 feet, and Sunshine Peak, 14,001 feet, are dissected by glaciated valleys radiating towards either

Aerial view of Cooper Lake at the head of Cooper Gulch in the Redcloud Peak WSA

View of Redcloud Peak from the head of Bent Creek; Redcloud Peak WSA



Grassy Mountain, south of Red Mountain,
in the Redcloud Peak WSA



View looking south of Lake City and Red Mountain
(see arrow); Redcloud Peak WSA

Henson Creek on the north or the Lake Fork of the Gunnison River on the south and east. The upper valleys have steep, sparsely vegetated, talus covered, side slopes 800-1,200 feet high.

The central core of this WSA is alpine tundra. The peripheries and large portions in the eastern half of the WSA are heavily forested in spruce and aspen. It contains rock glaciers and numerous cascades and waterfalls. Cooper Lake is the only major lake within the WSA. Mineral prospects and old cabin remnants are all substantially unnoticeable and may be of historical value.

Some imprints associated with mining and access are found within the WSA. Old vehicle ways are found in Cooper Creek, Silver Creek, Alpine Gulch and Williams Creek. These routes are two-wheeled tracks or abandoned. The Alpine Gulch way has not been maintained for over twenty years. Spruce trees and aspen, as high as ten feet, now grow in the center of the path. In several locations, the route is washed out. The Williams Creek track has been water-barred and some downed aspens block passage. The routes up Cooper Creek and Silver Creek are two-wheeled tracks. All of the ways were found to be substantially unnoticeable within the context of the wilderness.

The overall influence of human imprints on the naturalness of the area as perceived by the average visitor is negligible. The Redcloud Peak WSA contains outstanding opportunities for solitude. The area is extremely rugged; high mountain peaks and cascading streams provide numerous opportunities for solitude. The mountainous terrain, with its expanses of alpine tundra and open scenic vistas, projects feelings of vastness. The lower elevations and canyons in the eastern portion of the area contain densely forested lands which create a feeling of seclusion and intimacy.

Redcloud Peak (14,034 feet) is the 45th and Sunshine Peak (14,001 feet) is the 54th highest mountain in Colorado. In 1874, members of the Hayden Survey were the first recorded to have ascended these peaks. At this time the Hayden party referred to Sunshine Peak simply as "Station 12". Up until the early 1900s Sunshine Peak was called either "Niagara Peak" or "Sherman Mountain". The Wheeler Survey, also in 1874, named Redcloud Peak although previously it was known as either "Red Mountain" or "Jones Peak" (Bueler 1974). The scenic quality of the area is outstanding due to the combination of mountainous landforms, multi-colored rock stratas, diverse vegetation and vast, open vistas.

There are scientific and educational as well as geologic and ecologic values as this area is an extinct volcanic caldera with abundant wildlife--deer, elk, bighorn sheep, and golden eagles.

Cultural Resource

There are five identified historical sites in this area. These sites are all mining related structures and some date back to 1880. The inventoried sites are on the periphery of the area, but there are several other historic structures within the area which have not yet been inventoried (see Appendix 3.9).

Land and Access

Redcloud Peak is approximately 40,000 acres of mostly public surface and mineral estate, under the jurisdiction of the Bureau of Land Management. The entire area is classified for multiple use under C-2367.

Certain tracts of land were granted to the State of Colorado as "school sections." These lands were later reconveyed to the United States with a reservation of the mineral estate to the State of Colorado. These lands were originally described by suspended survey and are now described by an approved protraction diagram (see Map 1-2).

These lands are described as follows:

T. 43N., R. 4W., N.M.P.M.
Original Survey - Section 16
Approved Survey - Tracts 38 and 39,
240 acres

T. 43N., R. 5W., N.M.P.M.
Original Survey - Section 16 and 36
Approved Survey - Portions of Sections 8, 9, 16, 17, 25, 26, 35 and 36,
1,200 acres

T. 44N., R. 5W., N.M.P.M.
Original and Approved Survey - Section 36,
480 acres
About 160 acres in WSA

T. 42N., R. 5W., N.M.P.M.
Original Survey - Portion of Section 16

Approved Survey - Portions of Sections 9,
40 acres

T. 43N., R. 6W., N.M.P.M.
Original Survey - Section 36
Approved Survey - Portions of Sections 25 and 36
About 10 acres in WSA

The total area within the WSA on which the State of Colorado owns the mineral estate is 1,730 acres, most of which is leased to companies or individuals for mineral exploration.

Legal access to the WSA is provided by county roads along Henson Creek and the Lake Fork, and a county road to the communication site on Round Mountain at the eastern boundary of the study area. Four trails provide access into the area in Alpine Gulch, Silver Creek, and Cooper Creek. There is a withdrawal along the county roads on Henson Creek and the Lake Fork of the Gunnison River for the protection of recreation values.

There are 25 parcels of private land within the study area having an aggregate total of 280 acres. All of these lands are patented mining claims (see Map 1-2).

Livestock Grazing

Five grazing allotments are located at least partly within this area, with a total production of 1,449 Animal Unit Months (AUMs). These allotments are grazed by sheep from the first of July through the first of October. No fences, water development, or vehicle access routes are used or needed for the current sheep operations. While intensive management is proposed for these allotments, which would rotate use areas and periods of use, improvement projects are proposed.

Forestry

Timber production capability is based on site quality, potential reforestation problems, fragile soils, and adverse stand locations. All timber on slopes greater than 35 percent and all non-commercial species were withdrawn from the timber production base. Of the 13,835 acres of forest within this area, 13,242 acres are withdrawn by timber production capability classification. The "no problem" classification of this area amounts to 593 acres containing 4,744 thousand board feet (MBF) with a potential sustained-yield volume of 48 MBF per year.

Recreation

The Redcloud Peak WSA with its expanses of alpine tundra, high mountain peaks, numerous canyons, and high ridges provides an excellent setting for a variety of recreation activities. Current activities include the viewing of scenery, hiking, backpacking, horseback riding, camping, picnicking, hunting, fishing, mountain climbing, and photography.

There are three primary trails in the unit: Alpine Gulch, Cooper Creek and Silver Creek. No accurate use data is available as there are no trail head registers nor is the area currently patrolled by a backcountry ranger.

Several groups regularly use the area during the summer season. Colorado Outward Bound School has projected a yearly use figure of 1,250 Recreation Visitor Days (RVDs). They have used the Redcloud Peak area and adjacent lands on a continuous basis since 1970. In their cross-country backpacking expeditions, Outward Bound primarily uses the western half of the WSA: Silver Creek, Cooper Creek, Alpine Gulch, Lee Smelter Gulch, and Owl Gulch. In addition, the Colorado Mountain Club has recorded 1,200 climbers as reaching the summits of Redcloud Peak and Sunshine Peak from 1970-1980.

The average length of stay in the nearby BLM Powderhorn Primitive Area is 2.5 days, as derived from 1978 visitor registrations. Projecting use at an 8 percent annual increase from 1970-1980, and using 2.5 days average length of stay, would give the following approximate mountain climbing use figures for the Sunshine and Redcloud Peak area:

1970 - Recreation Visitor Days (180 RVDs)
1975 - Recreation Visitor Days (265 RVDs)
1980 - Recreation Visitor Days (388 RVDs)
Total RVDs from 1970-1980 would be 3,000

The accuracy of registration systems has been studied primarily with trail registers. It was found in the Mission Mountain Primitive Area of Montana that approximately 35 percent of the visitors did not register (Lucas, Schreuder, James 1971), while in the Selway-Bitterroot Wilderness of Montana/Idaho about 72 percent of the visitors did not register (Lucas 1975).

Due to these studies, or the factor that all climbers did not reach the summit(s), or that writing materials were sometimes absent, and backpackers use areas throughout the WSA, it was decided that actual use levels were higher than the peak registration indicated. Thus, based on a consensus by BLM District recreation personnel, an additional 35 percent should be more representative of actual visitation.

There are two developed motorized vehicle campgrounds near the periphery of the Redcloud Peak WSA; Mill Creek Campground (BLM) and Williams Creek Campground (FS). Mill Creek Campground received 75 recreation visits per day for a 120 day season of use (75 visits x 120 days = 9,000 RVDs per season). Williams Creek Campground received 91.6 recreation visits per day for a 120 day season of use (91.6 visits x 120 days = 10,992 RVDS per season). Campground use is not wilderness dependent, but some use is enhanced by the protection of the visual and natural resource values. Vehicular travel and viewing of scenery are the recreational activities that receive the greatest use around the periphery of the WSA. The "Loop Road" (Hinsdale County Road Numbers 1 and 2) is estimated at 125 private vehicles and 65 commercial vehicles per day for a 120 day season. Private vehicles average 4.2 people per vehicle (personal communication, Hinsdale County Sheriff 1980). This use would total 63,000 RVDs per season. Commercial vehicles average 8.9 people per vehicle (commercial vehicle use data from tour and rental business in Ouray, Silverton, and Lake City). This use would total 69,420 RVDs per season. Scenic vehicular recreation use is not wilderness dependent, but some use is enhanced by the protection of the visual and natural resource values.

Total RVDs in the WSA which are wilderness dependent are estimated in 1980 at 3,484. This includes 1,275 RVDs of hunting (deer, elk, bear).

Minerals

Redcloud Peak WSA is essentially congruent with the Lake City Caldera. The bounding ring fault and associated radial fracture pattern of this caldera are highly mineralized. In addition, there are intra-caldera fractures and associated zones of intense hydrothermal alteration which are very favorable host rocks for mineral deposits. Geophysical and geochemical measurements in this area indicate a potential for economic deposits of the minerals traditionally mined in this area - gold, silver, copper, lead, and zinc, as well as numerous other minerals never before extracted in this area.

A report by John F. Slack (1980) describes the vein-ore associations of the Lake City Caldera, and pertains particularly to the northern and northeastern portions of the study area. The report describes two distinct mineral assemblages which were responsible for the ores historically mined in the Henson Creek and Lake San Cristobal mining districts, and relates the ore implacement to the cycle of collapse and resurgence of the Lake City Caldera.

Of particular interest within this WSA is the Red Mountain alunite deposit, located within the eastern half of the WSA. Associated with the collapse of the Lake City Caldera, a plug of molten material was intruded along the ring fault and cooled to form a mass of a rock type known as quartz latite. This rock was subjected to later alteration by hydrothermal fluids containing sulfuric acid, a process called solfataric alteration, which modified the feldspars of the original rock to form alunite, or hydrous potassium aluminum sulfate. Alunite has been shown to be an ore of aluminum, with potential for the production of co-products of potash and sulfuric acid, and possible recovery of other trace elements that may exist in the deposit.

Initial exploration of the alunite deposit reveals the following data for aluminum, which would be the principle product of this deposit.

Demonstrated reserves of ore, which include both measured and indicated ore, total 55 million tons containing an average of 39.6 percent alunite. An additional 1.5 billion tons of ore is inferred. The aluminum contained in the demonstrated reserves would be about 5 million tons. If the inferred reserves can be demonstrated, an additional 136 million tons of aluminum is possible. Development of this deposit could represent one of the most significant mining developments in this part of the state since the late 1800s.

Earth Sciences, Inc., has been interested in the alunite deposit on Red Mountain for many years. Under the regulations pertaining to mineral leasing, the company was issued a prospecting permit in 1974 and an extension of that permit in 1976. An application for a preference right lease was filed in 1978 and the initial showing required by regulation was filed in 1979. The initial showing was approved by the U.S. Geological Survey (USGS) in 1981 and lease issuance is pending. Specific analysis of this action would be the subject of an environmental analysis or environmental impact statement at a time when a specific proposal is made.

Other areas within the WSA which show potential mineralization include the ring fault of the caldera itself, which essentially circumscribes the WSA, radial fracture patterns around the perimeter of the WSA, particularly on the north and east sides, intra-caldera veins and fractures and large areas exhibiting hydrothermal alteration in the vicinity of Cooper Creek, Lee Smelter Gulch, Alpine Gulch, Red Mountain, Redcloud Peak and Sunshine Peak.

The presence of patented mining claims within the boundaries of the WSA implies that at least at the time of patent, the economic conditions were such that a viable mineral deposit could be demonstrated on those properties. There are 25 such parcels of private land within the WSA and hundreds of others outside, but in close proximity.

Unpatented mining claims, duly recorded with the BLM according to the provisions of the Federal Land Policy and Management Act and 43 CFR 3833, cover more than 50 percent of the total area of the WSA. Although the act of staking a claim does not necessarily mean the physical existence of an economic mineral deposit, the presence of over 900 claims within this WSA is evidence of the mineral potential of the area.

Exploration of the mineralized areas, other than the Red Mountain deposit, is still in the preliminary stages of surface sampling and mapping. No clearly identified areas for intensive exploration have been defined, but the indications from initial exploration are that anomalous concentrations of numerous elements are present. Elements showing potential for economic concentrations are: gold, silver, copper, lead, zinc, arsenic, beryllium, thorium, titanium, vanadium, fluorine, and molybdenum.

A report entitled "Geochemical and Geostatistical Evaluation, American Flats-Silverton Planning Units" (USGS Open-file Report OF-599), was prepared following an extensive surface sampling and analysis program completed in 1979. The areas identified by this study show evidence of typical sulfide mineralization associations, copper, lead, zinc, gold and silver, and in some instances anomalous concentrations of uranium and molybdenum. This report concluded that certain areas of the Redcloud Peak Area have indications of minerals that would warrant further investigation. These areas specifically are Red Mountain, Grassy Mountain, Redcloud Peak, Sunshine Peak, Alpine Gulch, and Williams Creek. Other areas determined by this study to merit further investigation are on the periphery of the study area. These areas are Golden Fleece Mine, just outside the eastern boundary; the Fanny Fern Mine, at the northeast corner of the area; Capitol City, at the northwest corner; and Burrows Park, at the southwest corner. These areas were selected by sample analysis and favorable geologic associations or structures.

Other studies in the area by BLM personnel, and data supplied by mineral exploration companies indicate strong anomalies of uranium, molybdenum, beryllium, and copper in samples from the drainage basins of Cooper Creek, Silver Creek, Lee Smelter Gulch, Owl Gulch, and Alpine Gulch. All of these areas are heavily staked with mining claims by several mining companies.

Economic Analysis

Value of Commodities: Livestock production within and adjacent to the Redcloud Peak WSA consists entirely of sheep grazing, with 1,449 AUMs allotted on a seasonal basis. The BLM's current grazing fee of $2.31 per AUM places a value of current use at $3,347 per year. The actual value is higher when considering the AUM's value to the permittees as a loan or resale asset.

Current forestry production is non-existent in the WSA. However, it does contain some saleable timber. The present stumpage value of this timber is $11,889 per year, based on a sustained yield of 48 thousand board feet (MBF) per year.

Within the WSA boundaries, there is a Preference Right Lease Application (PRLA) for an ore body containing alunite. The applicant estimates the quantity of 39.6 percent alunite ore to be between 55 million and 1.5 billion tons. A mineral deposit of this size could ultimately prove to have both local and national significance; however, an estimation of the value or significance of this mineral deposit is not possible at this time.

Employment: Employment currently occurring within the WSA comes from livestock grazing and some mineral exploration. Also associated with the WSA is some unquantifiable amount of recreation - generated employment.

Income by Industry: The WSA is within Hinsdale County. Tourism is the County's number one income producer, followed by livestock production. Total 1976 mineral production of Hinsdale County was $160,000. This total included both sand and gravel operations and lead, silver and zinc production. No actual mining operations presently occur within the WSA.

Recreation: The 1980 estimated value of recreation for Redcloud Peak WSA is $137,900 (see Appendix 4.4).

HANDIES PEAK

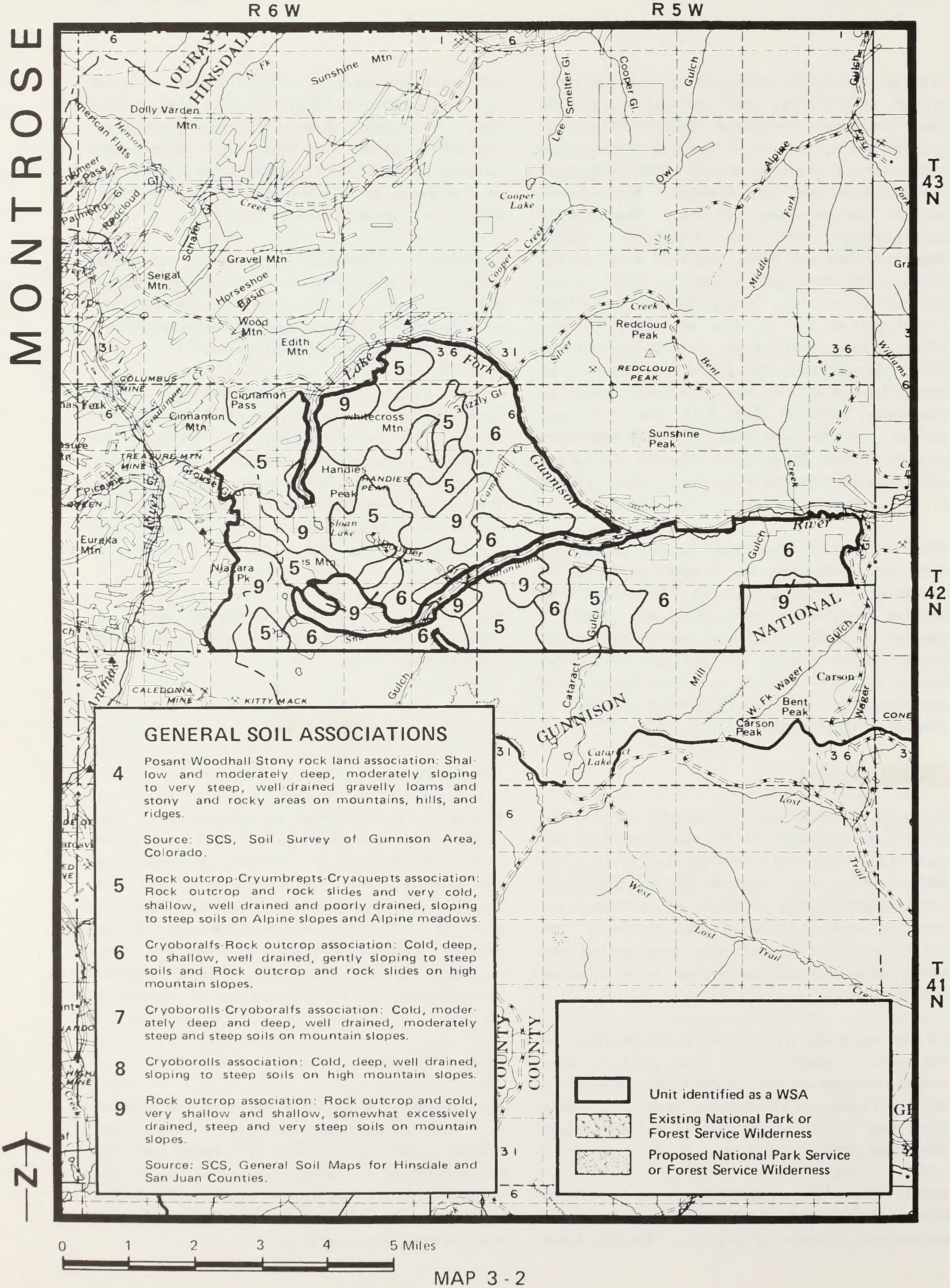
Topography

This area is very steep and mountainous. The elevation varies from 9,500 feet to 14,000 feet. Stream drainage patterns are dendritic and trellis, and the stream gradients are extremely steep. A sharp ridge in the western part of the unit is the drainage divide between the Animas River and Gunnison River drainage basins. The area contains several alpine lakes in the headwaters of perennial streams.

Soils

The Handies Peak WSA consists of three primary soil association (see Map 3-2). The lower elevation peripheries consist primarily of the Cryoboralfs-Rock Outcrop association. The core of the WSA and higher elevations consist of the Rock Outcrop-Cryumbrepts-Cryaquepts and Rock Outcrop associations.

CO-030-241 Handies Peak



GENERAL SOIL ASSOCIATIONS

4 Posant-Woodhall-Stony rock land association: Shallow and moderately deep, moderately sloping to very steep, well-drained gravelly loams and stony and rocky areas on mountains, hills, and ridges.

Source: SCS, Soil Survey of Gunnison Area, Colorado.

5 Rock outcrop-Cryumbrepts-Cryaquepts association: Rock outcrop and rock slides and very cold, shallow, well drained and poorly drained, sloping to steep soils on Alpine slopes and Alpine meadows.

6 Cryoboralfs-Rock outcrop association: Cold, deep, to shallow, well drained, gently sloping to steep soils and Rock outcrop and rock slides on high mountain slopes.

7 Cryoborolls-Cryoboralfs association: Cold, moderately deep and deep, well drained, moderately steep and steep soils on mountain slopes.

8 Cryoborolls association: Cold, deep, well drained, sloping to steep soils on high mountain slopes.

9 Rock outcrop association: Rock outcrop and cold, very shallow and shallow, somewhat excessively drained, steep and very steep soils on mountain slopes.

Source: SCS, General Soil Maps for Hinsdale and San Juan Counties.

Unit identified as a WSA

Existing National Park or Forest Service Wilderness

Proposed National Park Service or Forest Service Wilderness

MAP 3-2

Water Resource

This study area drains into the Lake Fork of the Gunnison River in the Gunnison River drainage basin. Drainage patterns of streams within the area are a combination of dendritic and trellis, and the streams have very steep gradients. A limited amount of water quality data is available for this area, but it appears the chemical quality of the surface water is generally good. However there is no information on concentrations of toxic metals in the waters of this area, and such metals are found in high concentrations in some of the surface waters in this vicinity. Because of wildlife, grazing, and recreation use it is possible there may be contamination of surface waters by fecal pathogens.

The domestic water supply for the town of Lake City is furnished by two wells which tap groundwater. The watersheds of the Handies Peak and Redcloud Peak WSAs are partially responsible for the recharge of this groundwater supply.

Vegetation

Vegetation on the lower slopes of this WSA is mostly the Engelmann spruce-subalpine fir forest type, with occasional aspen groves. The higher elevations are mostly alpine tundra, consisting of high-altitude species of grasses, forbs, and shrubs. Some portions of the areas above timberline are steep, rocky, and devoid of vegetation.

Terrestrial Wildlife

This area has been identified as containing substantial amounts of summer range for an estimated 13 bighorn sheep and 89 elk. In addition to the summer range, 36 bighorn sheep are reported to winter on the Lake Fork of the Gunnison River, Cataract Gulch, and Boulder Gulch. A few elk are reported to use the area during the winter from near the confluence of Cottonwood Creek and Lake Fork of the Gunnison River downstream past the boundary of the WSA near Mill Creek Campground.

Aquatic Wildlife

There are approximately 14 miles of Lake Fork of the Gunnison River associated with this WSA. According to the Gunnison Basin Grazing EIS, both the aquatic habitat quality and productivity are in fair condition. There are no intensive inventory data available on the other major tributaries within the WSA (approximately 15 miles). However, Cottonwood Creek appears to have some good aquatic habitat but is low in productivity. According to DOW data, Cataract Creek is an intermittent tributary with no fishery value. In general, the other tributaries associated with this WSA have poor water quality resulting from heavy metal pollution from either natural levels of heavy metals in the soils or from past mining activity.

Wilderness Resource

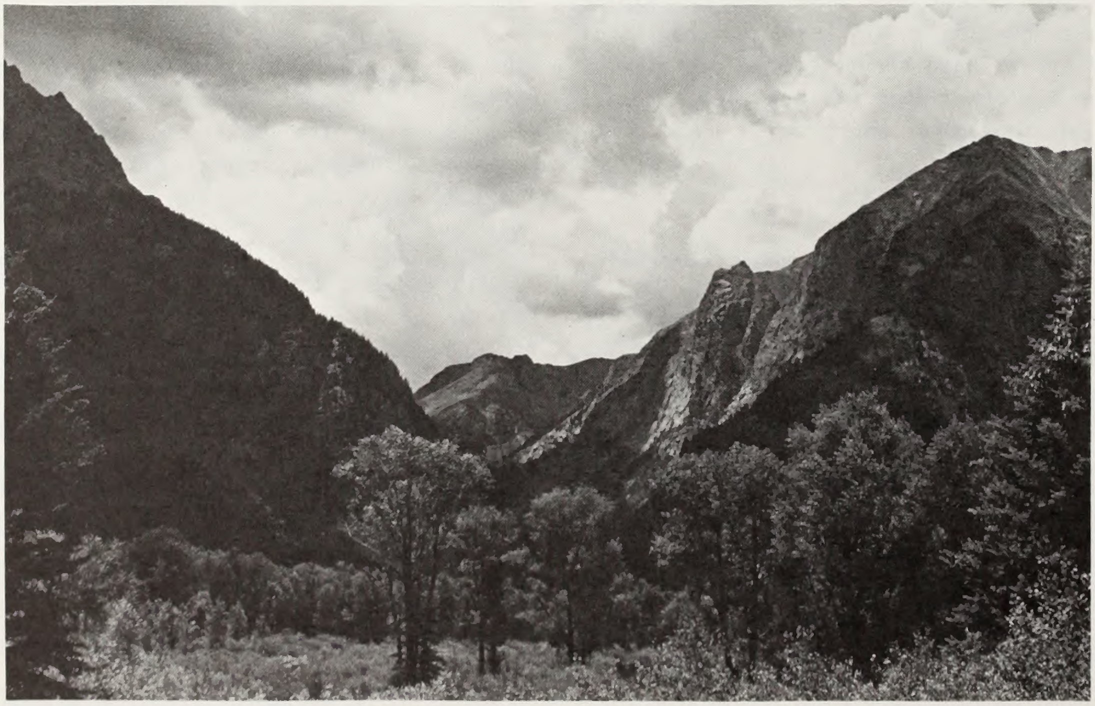
The Handies Peak WSA contains 18,860 acres of public lands administered by the Bureau of Land Management. There are approximately 170 acres of private mineral patents within the boundaries of this WSA. Some state-owned minerals are found north of Whitecross Mountain where BLM administers the surface lands. There are also some state-owned minerals between Cataract Gulch and Mill Gulch and in Burns Gulch and Grouse Gulch.

The WSA is extremely rugged and ranges from an elevation of 9,400 feet near Wager Gulch up to 14,048 feet on the summit of Handies Peak. It contains numerous peaks and ridges above 13,000 feet and glacial cirques such as American Basin and steep-walled canyons such as Cottonwood Creek. The WSA contains several alpine lakes.

Although there are some spruce and aspen forests on the peripheries of this WSA, the dominant vegetative type is alpine tundra.

The majority of man's imprints, associated with past mining activity and access routes, were excluded from the WSA during the wilderness inventory process. Some old

Handies Peak viewed from Grizzly Gulch; Handies Peak WSA



View looking west up Cottonwood Creek; Handies Peak WSA prospects are found within the western portion of this WSA but they do not adversely impact the natural character of the landscape. The overall influence of human imprints on the naturalness of the area as perceived by the average visitor is negligible.

The WSA contains outstanding opportunities for solitude. Much of the area is comprised of mountain peaks and ridges above 13,000 feet which divide numerous remote glacial cirques and drainages, each offering varying degrees of opportunities for solitude. The majestic view of surrounding mountains from within this WSA provides a feeling of spaciousness. The lower elevations and drainages with their dense aspen and spruce stands provide opportunities for seclusion and intimacy. The area's diversity encourages a freedom of movement within its boundaries.

The majority of the northern boundary of the WSA parallels the Shelf/Cinnamon Pass Road. Due to the steepness of terrain along this road as well as the "cherry-stemmed" Cottonwood Creek Road the sights and sounds of vehicle use are not impairing to the wilderness values.

The WSA, combining with its relatively large size, diversity, and ruggedness of terrain, offers outstanding opportunities for primitive and unconfined recreation. The numerous peaks, including Handies Peak at 14,048 feet, provide excellent hiking and climbing opportunities. The glacial cirques and drainages and numerous lakes facilitate recreational activities such as backpacking, camping, and fishing. Wildlife viewing and hunting are also activities which occur in this WSA.

Handies Peak (14,048 feet) is the 40th highest mountain in Colorado and is the highest within Bureau of Land Management jurisdiction, excluding Alaska. In 1874, members of the Hayden Survey climbed Handies Peak. At an elevation of 13,500 feet they found prospect holes and concluded that miners had preceded them to the top. Early Forest Service maps referred to this peak as "Tobasco". The early historian H. H. Bancroft reported that Handies was named after a prominent pioneer of the area (Bueler 1974).

The area is high in educational and scientific study potential. Intermingled volcanic and Precambrian rock types and glacial geomorphology are highly evident. At the head of American Basin is a rock glacier. The combination of mountainous landforms, multi-colored rock strata, diverse vegetation, and vast, open vistas produces outstanding scenic qualities.

The WSA has both winter and summer range for Rocky Mountain bighorn sheep. There have been some sighted mountain goats in the southern portion of the WSA. Ptarmigan and blue grouse can be seen. Elk and mule deer use the area during the summer. Limited amounts of elk winter range also exist in the vicinity of the Cottonwood Creek and Lake Fork confluence.

Cultural Resource

Handies Peak study area contains one identified historic mining related district, American Basin. This site has not officially been determined eligible to the National Register of Historic Places (NRHP).

Lands and Access

Handies Peak study area is approximately 19,000 acres of mostly public surface and mineral estate under the jurisdiction of the Bureau of Land Management.

The State of Colorado owns the mineral estate of three parcels of land within the study area described as:

T. 42N., R. 5W., N.M.P.M
Section 16, 40 acres

T. 42N., R. 6W., N.M.P.M.
Sections 9 and 16, 160 acres

T. 43N., R. 6W., N.M.P.M.
Sections 35 and 36, 400 acres

These lands aggregate about 600 acres, most of which has been leased to individuals or mining companies for mineral exploration.

There are 13 parcels of private lands within the study area aggregating 170 acres. All these lands are patented mining claims.

Legal access to the WSA is provided by the county road along the Lake Fork and two trail easements in the area. There is a withdrawal for the protection of recreation values along the Lake Fork.

Livestock Grazing

There are portions of five grazing allotments within the area. A total of 1,259 AUM's are authorized. The area is grazed by sheep from early July to the first of October. No major range improvements are proposed.

Forestry

There are 3,593 acres of Engelman spruce-subalpine fir forest type and 557 acres of aspen within the study area. The total volume capable of management on a sustained-yield basis is 8,492 thousand board feet (MBF), or 58 MBF/year. Under current multiple use management constraints, the area is not subject to intensive forest management and no timber sales are permitted.

Recreation

The Handies Peak WSA with its expanse of alpine tundra, high mountain peaks, numerous and diverse canyons, and rugged ridges provides an excellent setting for a variety of recreational activities. Activities presently occurring in the area include the viewing of scenery, hiking, backpacking, horseback riding, camping, picnicking, hunting, fishing, mountain climbing, and photography.

There are six primary trails in the unit; American Basin, Grizzly Gulch, Boulder Gulch, Snare Creek, Cuba Gulch, and Cataract Gulch. Except for Cuba Gulch and Cataract Gulch accurate use data is not available. Cataract and Cuba Gulch trails are managed cooperatively between BLM and the FS and registered 4.3 recreation visits a day for a 120 day season (4.3 visits x 120 days = 516 Recreational Visitor Days [RVDs] per season).

Several groups and individuals regularly use the area during the summer season. Colorado Outward Bound School has projected a yearly use figure of 1,248 recreation use days for the Handies Peak area. Outward Bound has used the Handies Peak area and adjacent lands on a continuous basis since 1970. In their cross-country backpacking expeditions, Outward Bound primarily uses all but the southwestern corner of the WSA. Areas used are Cottonwood Creek, Wager Gulch, Cataract Gulch, Cuba Gulch, Boulder Gulch, Sloan Lake, Grizzly Gulch, Whitecross and Handies Peaks, American Basin, and Grouse Lake.

In addition, data collected from the Colorado Moutain Club has recorded 1,200 climbers as reaching the summit of Handies Peak from 1970-1980. Due to the Montana studies, explained in the Redcloud Peak Recreation Section, or the factor that all climbers did not reach the summit(s), or that writing materials were sometimes absent, and that backpakers use areas throughout the WSA, it is estimated that actual use levels were higher than the peak registration indicated. Thus, based on a consensus by BLM District recreation personnel, an additional 35 percent should be more representative of actual visitation.

The average length of stay in the nearby BLM Powderhorn Primitive Area is 2.5 days, as derived from 1978 visitor registrations. Projecting use at an 8 percent annual increase (national average) from 1970-1980, and using 2.5 days average length of stay, would give the following approximate mountain climbing use figures for the Handies Peak area:

1970 - Recreation Visitor Days (180 RVDs)
1975 - Recreation Visitor Days (265 RVDs)
1980 - Recreation Visitor Days (388 RVDs)
Total RVDs from 1970-1980 would be 3,000

There is one developed motorized vehicle campground near the periphery of the Handies Peak WSA; Mill Creek Campground (BLM). Mill Creek Campground received 75 recreation visits per day for a 120 day season of use (75 visits x 120 days = 9,000 RVDs per season). Campground use is not wilderness dependent, but some use is enhanced by the protection of the visual and natural resource values.

Vehicular travel and viewing of scenery are the recreational activities that receive the greatest use around the periphery of the WSA. The "Loop Road" (Hinsdale County Road Numbers 1 and 2) is estimated at 125 private vehicles and 65 commercial vehicles per day for a 120 day season. Private vehicles average 4.2 people per vehicle (personal communication, Hinsdale County Sheriff 1980). This use would total 63,000 RVDs per season. Commercial vehicles average 8.9 people per vehicle (commercial vehicle use data from tour and rental business in Ouray, Silverton, and Lake City). This use would total 69,420 RVDs per season. Scenic vehicular recreation use is not wilderness dependent, but some use is enhanced by the protection of the visual and natural resource values.

Total RVDs in the WSA which are wilderness dependent are estimated in 1980 at 3,150. This includes 593 RVDs of hunting (deer, elk, bear).

Minerals

Handies Peak WSA is adjacent to the highly productive Eureka Mining District, which has been responsible for total production of $79 million in zinc, lead, gold, silver, and copper. The geology of the Handies Peak area is similar to the productive area of the Eureka District, both being a part of the San Juan/Lake City caldera complex. The system of mineral bearing veins from which the precious and base metals of the surrounding areas were extracted also occurs within this WSA. Geophysical measurements and geochemical sampling indicate potential within the WSA for the occurrence of base and precious metal deposits, as well as anomalous concentrations of such elements as molybdenum, uranium, and nickel.

Exploration of the mineral deposits within this WSA is in the preliminary stages and more intensive exploration is needed to determine quality and quantity of the resource.

The existence of mining claims within the WSA does not necessarily imply economic mineral deposits, but it is an indication of interest in the mineral resource. There are about 200 mining claims within Handies Peak WSA, mostly in the western portion of the area, north and west of Cottonwood Creek.

Information provided by mining claimants indicate a very strong potential for economic deposits of base and precious metals (gold, silver, copper, lead, zinc) in the area of Snare Creek drainage. A fairly extensive drilling program in this area has delineated an ore body which shows a significant tonnage of ore, estimated at 750,000 tons of ore-grade material carrying good values of base and precious metals. Another area showing extensive mineralization is the caldera ring-fault system in the vicinity of Campbell Creek and Grizzly Gulch, where mineralization is associated with the intrusion of diabase dikes along the caldera wall. This occurrence has been shown to contain high values of molybdenum and silver in select samples of vein material and dump samples from old mining properties in the area. There are also indications at this location of nickel and cobalt mineralization. In the area of American Basin, which was historically mined for gold and silver, there are indications of some occurrences of nickel and cobalt minerals. This information is substantiated by the recent geochemical evaluation, which describes a nickel anomaly in the vicinity of Handies Peak, just east of American Basin.

Economic Analysis

Value of Commodities: Livestock production within and adjacent to the Handies Peak WSA consists entirely of sheep grazing, with 1,259 AUMs allotted on a seasonal basis. The BLM's current grazing fee of $2.31 per AUM places a value of current use at $2,908 per year. The actual value is higher when considering the AUM's value to the permittees as a loan or resale asset. But on the whole, the value of livestock production within the WSA is considered insignificant on a regional or national level.

Current forestry production is non-existent in the WSA. However, it does contain some saleable timber. The present stumpage value of this timber is $14,366 per year, based on a sustained yield of 58 thousand board feet (MBF) per year.

Employment: The employment currently associated with the WSA is the same as discussed in Redcloud Peak WSA.

Income by Industry: The WSA is within Hinsdale County. Tourism is the County's number one income producer, followed by livestock production. Total 1976 mineral production of Hinsdale County was $160,000. This total included both sand and gravel operations and lead, silver and zinc production. No actual mining operations occur within the WSA.

Recreation: The 1980 estimated value of recreation for Handies Peak WSA is $114,600 (see Appendix 4.4).

AMERICAN FLATS

Topography

This area is approximately 7 square miles of mountainous topography with elevations between 11,000 and 13,000 feet. Stream drainages include the North Fork of Henson Creek and other tributaries to Henson Creek plus the headwaters of Cow Creek which is tributary to the Uncompahgre River. All streams are a part of the Gunnison River drainage system.

Soils

The American Flats WSA consists of three soil associations (see Map 3-3). The majority of the area consists of Rock Outcrop-Cryumbrepts-Cryaquepts and Rock Outcrop associations.

Water Resource

The eastern portion of this area drains into Henson Creek and the western portion drains into the Uncompahgre River via Cow Creek. Both are in the Gunnison River drainage basin. Streams have dendritic drainage patterns and the gradients are very steep. Water quality data for the North Fork of Henson Creek indicates it is suitable for human consumption if treated for biological pathogens. The main stream of Henson Creek, just outside the boundary of this area, showed levels of cadmium and lead exceeding federal and state standards for drinking water.

Vegetation

Vegetation on the lower slopes of this WSA is mostly the Engelmann spruce-subalpine fir forest type, with occasional aspen groves. The higher elevations are mostly alpine tundra, consisting of high-altitude species of grasses, forbs, and shrubs. Some portions of the areas above timberline are steep, rocky, and devoid of vegetation.

Terrestrial Wildlife

Although substantial portions of the WSA have been identified as bighorn sheep summer range, most use by an estimated 11 animals is thought to be centered around the adjacent Wildhorse Peak area within the Big Blue Wilderness Area.

Of a potential 289 species occurring in the upper elevations of the Wilderness EIS area, only 37 of these species are typically found in alpine areas.

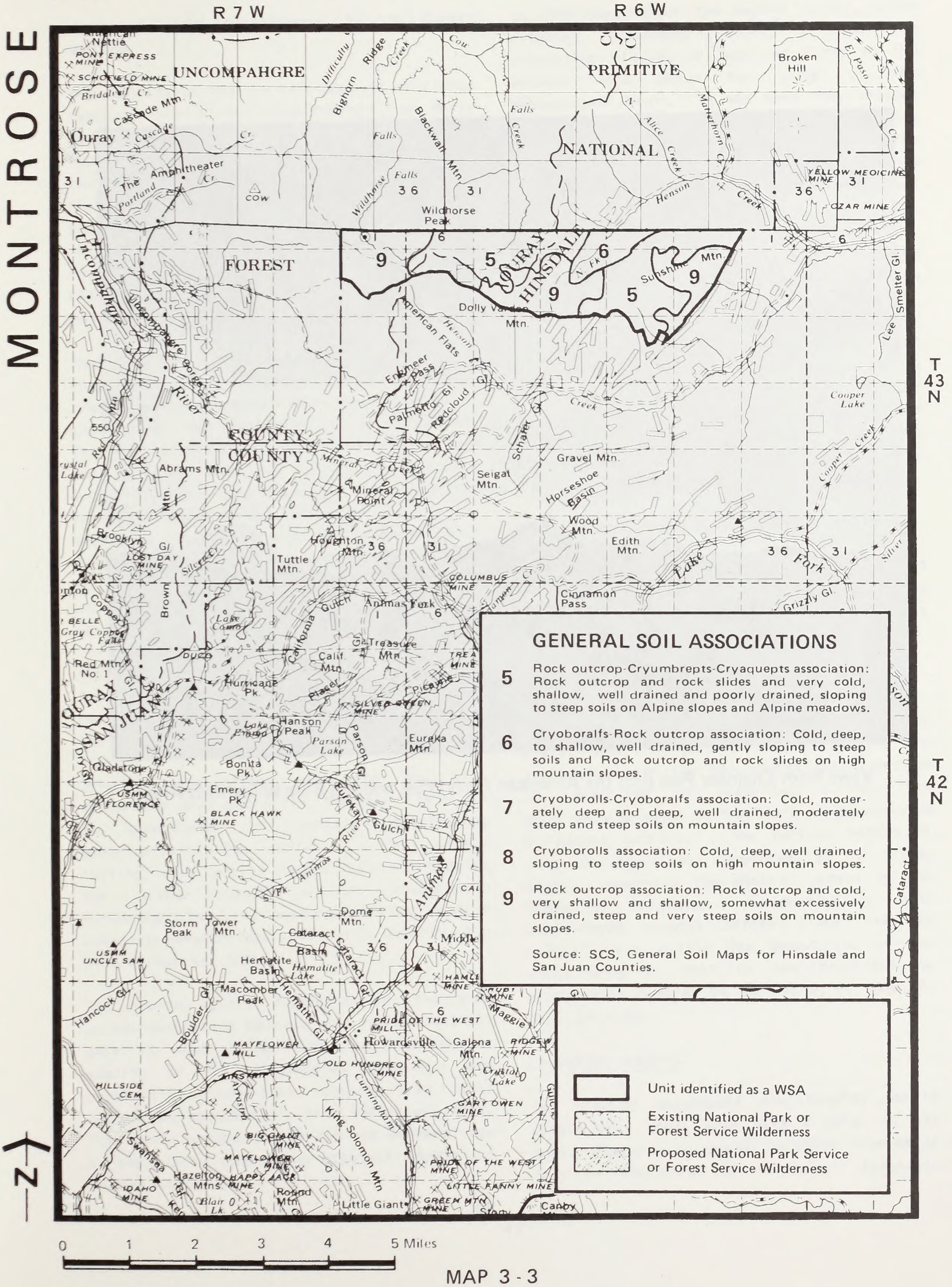
Aquatic Wildlife

The primary aquatic resources in this WSA are associated with approximately two miles of aquatic habitat on the North Fork of Henson Creek. Based on data currently available, this stream is in good condition in terms of aquatic/riparian habitat. The natural productivity appears to be low and the fishery, consisting primarily of brook and rainbow, is supplemented by Colorado Division of Wildlife stocking programs.

Wilderness Resource

The American Flats WSA contains 4,710 acres of public lands administered by the Bureau of Land Management. The northwestern boundary is contiguous with the 97,700 acre Big Blue

CO-030-217 American Flats



GENERAL SOIL ASSOCIATIONS

5	Rock outcrop-Cryumbrepts-Cryaquepts association: Rock outcrop and rock slides and very cold, shallow, well drained and poorly drained, sloping to steep soils on Alpine slopes and Alpine meadows.
6	Cryoboralfs-Rock outcrop association: Cold, deep, to shallow, well drained, gently sloping to steep soils and Rock outcrop and rock slides on high mountain slopes.
7	Cryoborolls-Cryoboralfs association: Cold, moderately deep and deep, well drained, moderately steep and steep soils on mountain slopes.
8	Cryoborolls association: Cold, deep, well drained, sloping to steep soils on high mountain slopes.
9	Rock outcrop association: Rock outcrop and cold, very shallow and shallow, somewhat excessively drained, steep and very steep soils on mountain slopes.

Source: SCS, General Soil Maps for Hinsdale and San Juan Counties.

MAP 3-3

View from Engineer Pass into the American Flats WSA and Big Blue Wilderness Area

Wilderness Area administered by the Forest Service.

The majority of the WSA is comprised of alpine tundra. Several drainages radiate from Dolly Varden (12,932 feet) and Sunshine (13,321 feet) mountains, including the headwaters of the North Fork of Henson Creek. Areas within the WSA below tree line are forested in spruce and aspen. A large portion of the unit is undulating topography with vast, unobscured vistas of the surrounding mountain lands. The WSA includes American Lake and several unnamed ponds.

The imprints of man are substantially unnoticeable. A vehicle way, essentially two tracks, extends approximately two-thirds of a mile along the North Fork of Henson Creek. This way is naturally rehabilitating in places and is often used as a foot or horseback trail, or as a stock driveway. Other imprints include mineral prospects which have a low impact on the naturalness of the area. Foot and horseback trails are located primarily in the western portion of the WSA and provide access into adjacent U.S. Forest Service lands.

Although the vehicle way could be separated from the WSA and the remaining area recommended for wilderness designation, this imprint is minor and insignificant.

Only in combination with the Big Blue Wilderness Area could the American Flats WSA be considered to contain outstanding opportunities for solitude. The area's rolling, open alpine tundra does not provide for either vegetative or topographic screening, but the western portion readily combines geographically with the existing Big Blue Wilderness Area.

The alpine tundra vegetation of the area allows unconfined movement and recreation, but only in combination with the high scenic quality of the mountainous landscape and outstanding recreation opportunities found within the adjacent Big Blue Wilderness Area. The scenic values of the WSA are enhanced due to its alpine tundra and adjacent 13,000 and 14,000 foot peaks.

In 1874 members of the Hayden Survey, after climbing Uncompahgre Peak, crossed the undulating plateau of American Flats to its western edge above the gorge of the Uncompahgre River. It was here they studied the possibilities of climbing Mount Sneffels. From American Flats they then headed in the direction of the Lake Fork Mountains and there ascended Redcloud Peak, Sunshine Peak, and Handies Peak.

The area has blue grouse; Rocky Mountain bighorn sheep and mule deer can be seen in the summer. Ducks and geese are common at American Lake. The North Fork of Henson Creek has been identified as potential river otter habitat, but to date there are no known residents in the area. The plant species Altai starwort (Stellaria irrigua), and potential habitat for Porter's groundsel (Senecio porteri) are within the WSA. Both are considered rare.

Cultural Resource

There are numerous historic mining-related structures outside the boundaries of this area, but none have been identified within the area.

Lands and Access

This area is approximately 4,700 acres of public land. No parcels of private land are included within the WSA boundaries. Section 16, described by suspended survey, was originally granted to the State of Colorado as a "school section." The surface estate of this land was later reconveyed to the United States, reserving the mineral estate to the State of Colorado. A portion of this state-owned mineral estate (less than 20 acres) falls within the boundaries of the study area in what is now described by protraction diagram as Section 9; T. 43N., R. 6W., N.M.P.M.

Livestock Grazing

Two grazing allotments are located partly within this study area with a total of 353 AUMs. The area is grazed by sheep from early July to the first of October. Intensive management is proposed for these allotments, which would rotate grazing cycles, season of use, etc. No major range improvement projects are proposed.

Forestry

Timber occurs only in the very lowest portions of this area. Most of the area is above timberline. Forest cover occurs on 178 acres and is mainly Engelman spruce. Of this, 83 acres is withdrawn by timber production capability classification. The "no-problem" classification amounts to 95 acres containing 855 thousand board feet with a potential sustained yield volume of 8 MBF/yr.

Recreation

The American Flats WSA with its expanse of alpine tundra, diverse canyons, and ridges provides an excellent setting for a variety of recreation activities. Activities presently occurring in the area include the viewing of scenery, hiking, backpacking, horseback riding, camping, picnicking, hunting, mountain climbing, and photography.

There are five primary trails in the unit or providing access into the unit: American Flats, Bear Creek, Horsethief, Cow Creek, and the Ridge Stock Driveway. The majority are administered by the Forest Service. The Bear Creek Trail recorded 9.2 recreation visits per day for a 120 day season (9.2 visits x 120 days = 1,104 RVDs per season). The Horsethief Trail recorded 11.6 recreation visits per day for a 120 day season (11.6 visits x 120 days = 1,392 RVDs per season). The Ridge Stock Driveway (trail) recorded 5.4 recreation visits per day for a 120 day season (5.4 visits x 120 days = 648 RVDs per season). In addition, the Forest Service has recorded 42 recreation visits per day for a 120 day use season in the contiguous Big Blue Wilderness Area (42 visits x 120 days = 5,040 RVDs per season). No accurate use data is available for the adjacent BLM lands as there are no trail head registers nor is the area currently patrolled by a backcountry ranger.

Several groups regularly use the area during the summer season. Colorado Outward Bound School has projected a yearly use figure of 1,248 recreation use days. Outward Bound has used the American Flats area and adjacent lands on a continuous basis since 1970. In their cross-country backpacking expeditions, Outward Bound primarily uses the western half of the WSA; American Lake, Dolly Varden Mountain and Wildhorse Peak.

Vehicular travel and viewing of scenery are the recreational activities that receive the greatest use around the periphery of the WSA. The "Loop Road" (Hinsdale County Road Numbers 1 and 2) is estimated at 125 private vehicles and 65 commercial vehicles per day for a 120 day season. Private vehicles average 4.2 people per vehicle (personal communication, Hinsdale County Sheriff 1980). This use would total 63,000 RVDs per season. Commercial vehicles average 8.9 people per vehicle (commercial vehicle use data from tour and rental business in Ouray, Silverton, and Lake City). This use would total 69,420 RVDs per season. Scenic vehicular recreation use is not wilderness dependent, but some use is enhanced by the protection of the visual and natural resource values.

Total RVDs in the WSA which are wilderness dependent are estimated in 1980 at 2,126. This includes 149 RVDs of hunting (deer, elk, bear).

Minerals

This study area is located within the Uncompahgre Caldera complex adjacent to the Eureka graben, where many mining operations contributed to the production of precious and base metals in the late 1800s and early part of the 20th Century. In areas immediately adjacent to the WSA, which were eliminated from further wilderness consideration during the intensive inventory phase, exploration is occurring on both public and private land. Within the boundaries of the WSA, exploration to date has consisted of preliminary surface sampling and mapping. The areas of potential mineralization as indicated by assay samples, geologic structure, rock type and locations of unpatented mining claims, include the North Fork of Henson Creek drainage, Dolly Varden Mountain, and the southeastern portion of the

WSA, including Sunshine Mountain. There is evidence of the occurrence of the mineralized vein systems in these areas similar to the adjacent areas which were mined in the past. In addition to precious and base metals potential, the area of Dolly Varden Mountain has been shown through geochemical and geophysical evaluation to have potential for having economic concentrations of uranium.

The presence of mining claims is not, by itself, necessarily indicative of mineralization. However, it does indicate an interest in the mineral potential when taken in context of the geologic parameters indicating areas of possible mineralization. In this area about 40 mining claims, as recorded with the BLM, are located in the area of Dolly Varden Mountain, North Fork of Henson Creek and Sunshine Mountain.

Economic Analysis

Value of Commodities: Livestock production within and adjacent to the American Flats WSA consists entirely of sheep grazing, with 353 AUMs allotted on a seasonal basis. The BLM's current grazing fee of $2.31 per AUM places a value of current use at $815 per year. The actual value is higher when considering the AUM's value to the permittees as a loan or resale asset. But on the whole, the value of livestock production within the WSA is considered insignificant on a regional or national level.

Current forestry production is non-existent in the WSA. However, it does contain some saleable timber. The present stumpage value of this timber is $1,982 per year, based on a sustained yield of 8 thousand board feet (MBF) per year.

Employment: Employment currently occurring within the WSA comes from livestock grazing and some mineral exploration. Also associated with the WSA is some unquantifiable amount of recreation - generated employment.

Income by Industry: The WSA is within Hinsdale County. Tourism is the County's number one income producer, followed by livestock production. Total 1976 mineral production of Hinsdale County was $160,000. This total included both sand and gravel operations and lead, silver and zinc production. No actual mining operations occur within the WSA.

Value of Recreation: The 1980 estimated value of recreation for the American Flats WSA is $72,800 (see Appendix 4.4).

BILL HARE GULCH

Topography

This area is about 370 acres of steep terrain dissected by several small streams, the headwaters of which originate in the National Forest lands to the west. Elevation varies from 8,700 to 9,300 feet. Stream drainage patterns are dendritic.

Soils

The Bill Hare Gulch WSA consists entirely of the Posant-Woodhall-Stony rock land association (see Map 3-4).

Water Resource

This area contains several small drainages which are tributary to the Lake Fork of the Gunnison River. No water quality data is available, but because of recreational and wildlife use, the surface waters could be contaminated by fecal pathogens.

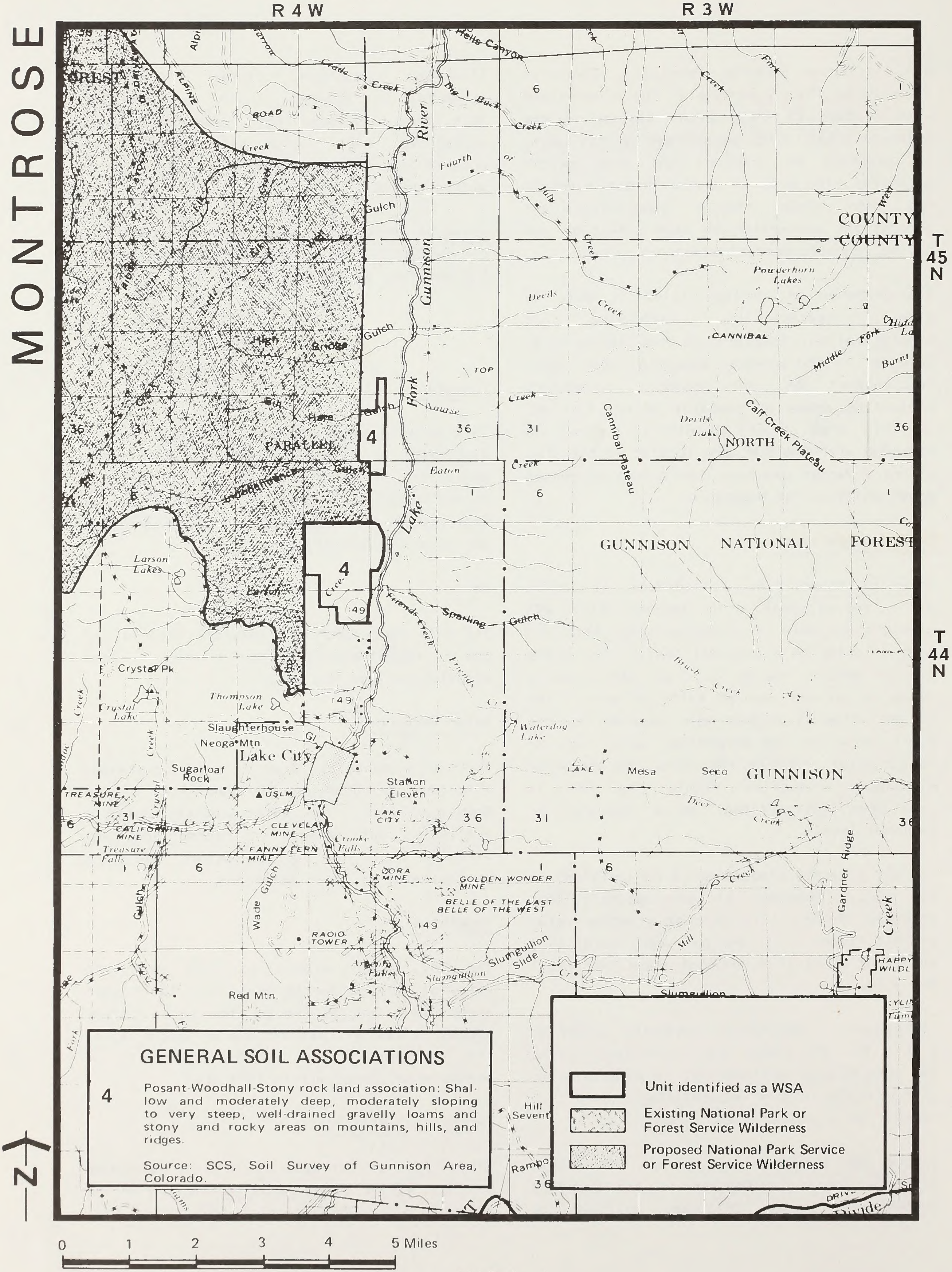
Vegetation

The dry, lower slopes of this area are forested with ponderosa pine, and the higher areas have Douglas-fir on the rocky, steep slopes. Some willows and shrubs occur along the drainages. Very little understory or meadow areas occur within this area.

Terrestrial Wildlife

This WSA is an extension of crucial mule deer and elk winter range which extends from the adjacent Big Blue Wilderness Area. The area

CO-030-085 Bill Hare Gulch
CO-030-086 Larson Creek



GENERAL SOIL ASSOCIATIONS

4	Posant-Woodhall-Stony rock land association: Shallow and moderately deep, moderately sloping to very steep, well-drained gravelly loams and stony and rocky areas on mountains, hills, and ridges.

Source: SCS, Soil Survey of Gunnison Area, Colorado.

▭	Unit identified as a WSA
▨	Existing National Park or Forest Service Wilderness
▒	Proposed National Park Service or Forest Service Wilderness

MAP 3-4

within the WSA is capable of providing winter forage for the equivalent of one mule deer and one elk.

Aquatic Wildlife

There is approximately 0.5 mile of intermittent aquatic habitat associated with this WSA. Based on DOW data this tributary has no fishery value. There is currently no existing data available that would indicate the value of this tributary to other aquatic organisms.

Wilderness Resource

The Bill Hare Gulch WSA contains 370 acres of public lands administered by the Bureau of Land Management. The western boundary of this WSA is contiguous with the 97,700 acre Big Blue Wilderness Area administered by the Uncompahgre National Forest.

Bill Hare Gulch WSA contains the lower portion of five gulches which originate within the Big Blue Wilderness Area. The terrain includes steep slopes and small forested and rocky knobs. Vegetation is aspen and conifers with oakbrush and other shrubs along the stream drainages.

Only an extremely small portion of the WSA contains imprints of man. These imprints are substantially unnoticeable. A foot and horse trail crosses this area and provides access into the Big Blue Wilderness Area. Portions of an old ditch are found in Bill Hare Gulch and extends into the Big Blue Wilderness Area. This ditch is substantially unnoticeable and is rehabilitating under natural processes. The overall influence of human imprints on the naturalness of the area as perceived by the average visitor is negligible.

Only in combination with the Big Blue Wilderness Area would the Bill Hare Gulch WSA be considered to contain outstanding opportunities for solitude. Although small in size this WSA contains steep hills, rocky outcrops, and narrow canyons and is fairly heavily forested which tends to screen visitors from one another. Although the Bill Hare Gulch WSA lies just west of Highway 149 the WSA is elevated well above the roadbed and thus sights and sounds of vehicles are not impairing to wilderness values.

Only in combination with the Big Blue Wilderness Area would the Bill Hare Gulch WSA or portions therein, be considered to contain outstanding opportunities for a primitve and unconfined type of recreation. It does provide access for foot and horse use to the Big Blue Wilderness Area.

Cultural Resource

The area contains no known historic or archeological sites.

Lands and Access

The area is public domain surface and mineral estate. Access to the area is provided off of Highway 149.

Livestock Grazing

The area is not allotted for grazing, due to the overall unsuitability for livestock grazing.

Forestry

The area has no identified timber potential.

Recreation

The Bill Hare Gulch WSA is contiguous to the 97,700 acre Big Blue Wilderness Area. This WSA would provide for access into the Big Blue Wilderness Area. Activities presently occurring in the area include the viewing of scenery, hiking, backpacking, horseback riding, camping, picnicking, hunting, fishing, and photography.

There is one trail in this unit which provides access into the contiguous wilderness area, but is not open to public use as it crosses private lands. The Forest Service is currently analyzing potential trail sites within this unit. No accurate use data is available as there are no trail head registers nor is the area currently patrolled by a backcountry ranger. The Forest Service has recorded 42 recreation visits per day for a 120 day use season in the Big Blue Wilderness Area (42 visits x 120 days = 5,040 RVDs per season).

Some fishing activity occurs along the Lake Fork of the Gunnison River east of the Bill Hare Gulch WSA and accounts for 86 recreation visits per day for a 120 day season (86 visits x 120 days = 10,320 RVDs per season). This fishing use is not directly related to the adjacent wilderness values.

The Colorado Highway Department has completed a traffic volume study for Colorado State Highway 149 which is adjacent to the WSA. This study shows that a daily average of 249 vehicles travel the highway in a day. The average vehicle carries 3.2 travelers which accounts for 928 travelers a day over a year (918 travelers x 365 days = 338,720 travelers per year). This use is not strictly recreational, however, nor is scenic vehicular recreation use wilderness dependent. Some use may be enhanced by the protection of the visual and natural resource values.

Total RVDs in the WSA which are wilderness dependent are estimated in 1980 at 162. This includes 12 RVDs of hunting (deer, elk, bear).

Minerals

The area has no identified mineral resource potential.

Economic Analysis

Value of Commodities: There is no livestock production, forestry reserves, or mineral values to this WSA.

Employment: There is no employment associated with the WSA aside from indirect recreation generated employment.

Income by Industry: With no livestock, timber, or mineral production, total income associated with this area is negligible.

Recreation: The 1980 estimated value of recreation for the Bill Hare Gulch WSA is $6,000 (see Appendix 4.4).

LARSON CREEK

Topography

Elevation varies from 8,600 to 10,500 feet. Topography is steep, V-shaped drainages of the lower part of Larson Creek and its tributaries whose headwaters are located on National Forest land to the west.

Soils

The Larson Creek WSA consists entirely of the Posant-Woodhall-Stony rock land association (see Map 3-4).

Water Resource

Larson Creek is tributary to the Lake Fork of the Gunnison River within the Gunnison River drainage basin. Stream gradients within the area are steep and the drainage pattern is dendritic. No water quality data is available.

Vegetation

Vegetation consist of ponderosa pine in the lower elevations, Douglas-fir and Engelmann spruce-subalpine fir at the higher elevations. Some aspen stands are present in the area, with oakbrush and other shrubs along the drainages.

Terrestrial Wildlife

This WSA is an extension of crucial mule deer and elk winter range which extends from the adjacent Big Blue Wilderness Area. The area within the WSA is capable of providing winter forage for the equivalent of one or two mule deer and two elk.

Aquatic Wildlife

There is approximately one mile of aquatic habitat associated with this WSA. According to the data collected in the preparation of the Gunnison Basin Grazing EIS, the aquatic/riparian habitat associated with Larson Creek is in excellent condition with high aquatic productivity, but there is no data concerning any existing or potential fishery.

Wilderness Resource

The Larson Creek WSA contains 900 acres of public lands administered by the BLM. The northern and western boundary is contiguous with the 97,700 acre Big Blue Wilderness Area administered by the Uncompahgre National Forest and consists primarily of the steep western slope of the Lake Fork of the Gunnison River Canyon. The upper portions are over 10,500 feet in elevation. Several deep, rugged side canyons cut across the WSA from west to east and enter the Lake Fork. The vegetation is fairly heavy and consists primarily of pine, spruce and aspen with some open areas.

Only a very small portion of the WSA contains imprints of man. These imprints are either substantially unnoticeable or may add to the cultural resource values of the WSA. Some old, uninhabited cabins within the unit appear to be associated with past mineral prospecting. The majority of these structures (approximately eight) have either collapsed or are deteriorating. A portion of a vehicle way enters the southern portion of the WSA but is effectively screened by the thick stands of aspen and spruce. This way is less than one mile in length. Some fencing is also found within the unit and is substantially unnoticeable.

These imprints, although minor and insignificant, could be separated from the area and the remainder could be recommended for wilderness designation. The overall influence of human imprints on the naturalness of the area as perceived by the average visitor is negligible.

Because of the small size of the Larson Creek WSA, only in combination with the Big Blue Wilderness Area would these lands be considered to contain outstanding opportunities for solitude. The WSA is very rugged in topography and heavily forested; thus visitors would be screened from one another. Due to the steep slopes, only a minimal area along the eastern boundary would possibly be adversely affected by highway usage. The majority of the WSA would not be affected by either the sight or sounds of vehicles and thus would not be impairing to the wilderness values.

Only in combination with the Big Blue Wilderness Area would the Larson Creek WSA, or portions therein, be considered to contain outstanding opportunities for a primitive and unconfined type of recreation. The Larson Creek WSA could provide access into the existing Big Blue Wilderness Area.

Cultural Resource

No inventoried historic or archeological sites have been identified in this area, but several old cabins are known to exist along the main stream of Larson Creek.

Lands and Access

This area contains 900 acres of public domain surface and mineral estate. Legal access is by State Highway 149 along the eastern boundary. A telephone/telegraph right-of-way which parallels the highway is a portion of the southeastern boundary of the study area. A portion of Mineral Survey No. 99 falls within the northeast quarter of Section 15; this survey never went to patent.

Livestock Grazing

The area is currently unallotted for livestock grazing.

Forestry

Forest cover occurs on 566 acres in the WSA and consists of ponderosa pine on the lowest portions of the area and Douglas-fir and Engelman spruce-subalpine fir at the higher elevations. Of the total forested area, 487 acres are withdrawn by timber production capability classification. The remaining 79 acres, classified "no problem", contains 540 thousand board feet with a potential sustained yield volume of 6 MBP per year.

Recreation

The Larson Creek WSA is contiguous to the

Larson Creek WSA

Eastern slope of Bill Hare Gulch WSA

97,700 acre Big Blue Wilderness Area. This WSA would provide for access into the Big Blue Wilderness Area. Activities presently occurring in the area include the viewing of scenery, hiking, backpacking, horseback riding, camping, picnicking, hunting, fishing, and photography.

No accurate use data is available as there are no trail head registers nor is the area currently patrolled by a backcountry ranger. The Forest Service has recorded 42 recreation visits per day for a 120 day use season in the adjacent Big Blue Wilderness Area (42 visits x 120 days = 5,040 RVDs per season).

Some fishing activity occurs along the Lake Fork of the Gunnison River east of the Larson Creek WSA and accounts for 86 recreation visits per day for a 120 day season (86 visits x 120 days = 10,320 RVDs per season). This fishing use is not directly related to the adjacent wilderness values.

The Colorado Highway Department has completed a traffic volume study for Colorado State Highway 149 which is adjacent to the WSA. The findings indicate that a daily average of 249 vehicles travel the highway in a day. The average vehicle carries 3.2 travelers which accounts for 928 travelers a day over a year (918 travelers x 365 days = 338,720 travelers per year). This use is not strictly recreational, however, nor is scenic vehicular recreation use wilderness dependent. Some use may be enhanced by the protection of the visual and natural resource values.

Total RVDs in the WSA which are wilderness dependent are estimated in 1980 at 190. This includes 28 RVDs of hunting (deer, elk, bear).

Mineral Resources

The Larson volcanic center, which was one of the earliest centers of volcanic activity in this portion of the San Juan Mountains Province, is located within this area. This activity predates the cycle of caldera collapse and resurgence which has been linked to the ore emplacement of the mineralized areas to the south. This area does contain some rhyolitic and andesitic dikes radiating from the volcanic center, and the area exhibits hydrothermal alteration, but there is very little evidence that the area has any significant mineral potential. There is some evidence of prospecting activity in the vicinity of one of the dikes, but no mining claims have been recorded with the BLM.

Economic Analysis

Value of Commodities: There is no livestock production within the WSA.

Current forestry production is non-existent in the WSA. However, it does contain some saleable timber. The present stumpage value of this timber is $1,486 per year, based on a sustained yield of 6 thousand board feet (MBF) per year.

The mineral potential is low in this WSA. There are no claims at present.

Employment: There is no employment associated with the WSA aside from indirect recreation generated employment.

Income by Industry: With no livestock, timber, or mineral production, total income associated with this area is negligible.

Recreation: The 1980 estimated value of recreation for Larson Creek WSA is $6,800.

WEMINUCHE CONTIGUOUS

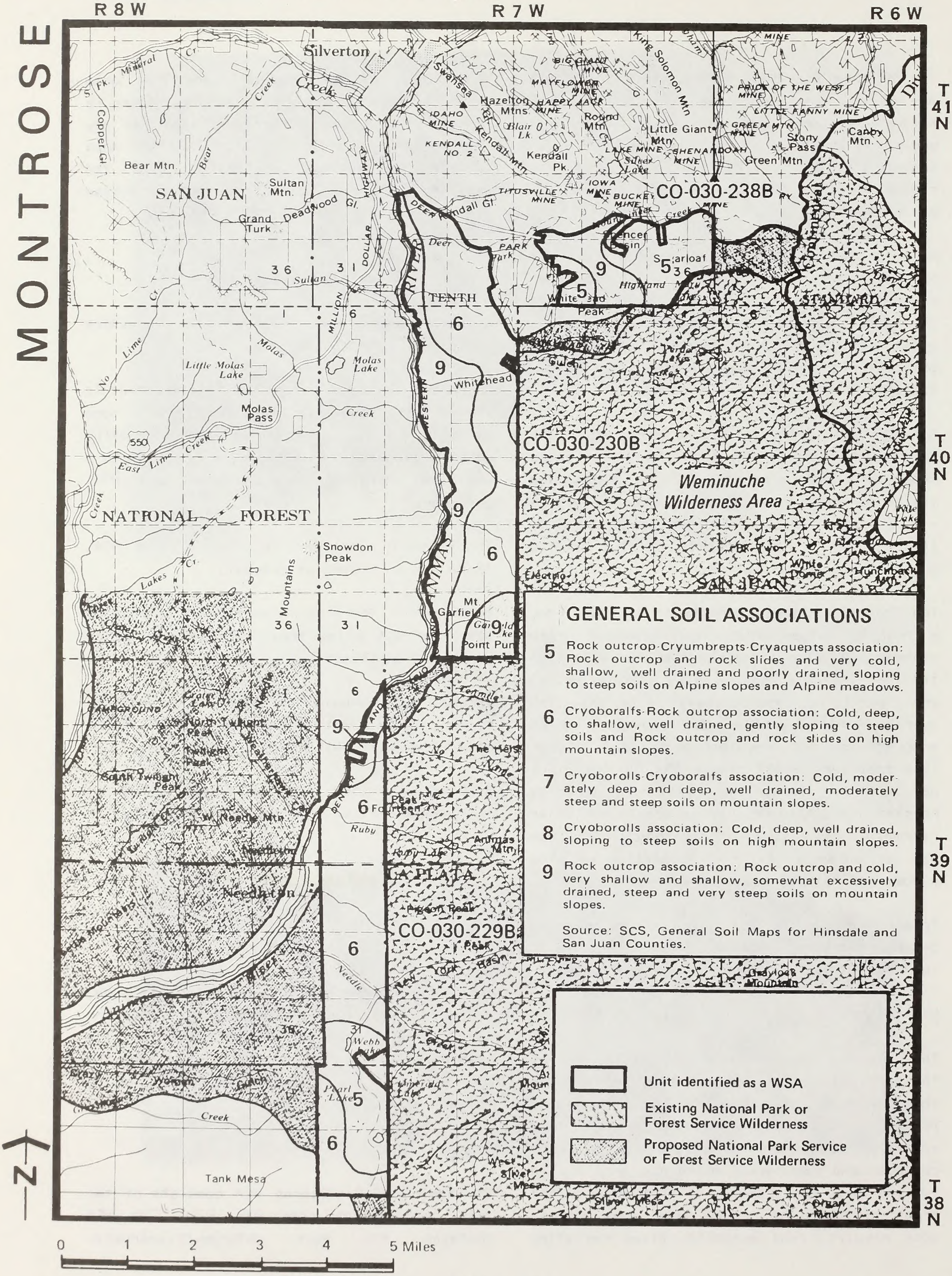
Topography

This area is characterized by high altitude, steep, mountainous topography. Elevation ranges from 10,800 feet to 13,400 feet. The high peaks, ridges and basins of this area are the headwater areas of streams tributary to the Animas River.

Soils

The Weminuche Contiguous WSA consists of two soil associations (see Map 3-5). The WSA contains the Rock Outcrop-Cryumbrepts-

CO-030-230B Whitehead Gulch
CO-030-238B Weminuche Contiguous



GENERAL SOIL ASSOCIATIONS

5 Rock outcrop-Cryumbrepts-Cryaquepts association: Rock outcrop and rock slides and very cold, shallow, well drained and poorly drained, sloping to steep soils on Alpine slopes and Alpine meadows.

6 Cryoboralfs-Rock outcrop association: Cold, deep, to shallow, well drained, gently sloping to steep soils and Rock outcrop and rock slides on high mountain slopes.

7 Cryoborolls-Cryoboralfs association: Cold, moderately deep and deep, well drained, moderately steep and steep soils on mountain slopes.

8 Cryoborolls association: Cold, deep, well drained, sloping to steep soils on high mountain slopes.

9 Rock outcrop association: Rock outcrop and cold, very shallow and shallow, somewhat excessively drained, steep and very steep soils on mountain slopes.

Source: SCS, General Soil Maps for Hinsdale and San Juan Counties.

☐ Unit identified as a WSA
▨ Existing National Park or Forest Service Wilderness
░ Proposed National Park Service or Forest Service Wilderness

MAP 3-5

Cryaquepts and Rock Outcrop associations.

Water Resource

Several small drainages originate in this area and are tributary to the Animas River. No water quality data is available for the surface waters of this area, but due to natural seepage from mineralized areas or as a result of past mining activity the surface waters may contain chemical contaminants.

Vegetation

Forest cover occupies only a small portion of the area (55 acres) at the very lowest elevations, and is nearly all Engelmann spruce. The rest of the area is above timberline and consists of alpine tundra, consisting of high-altitude species of grasses, forbs, and shrubs, and steep rocky areas devoid of vegetation.

Terrestrial Wildlife

The entire WSA has been identified as potential winter range for mountain goat, however the area is believed to receive only casual irregular use (personal communication, Don Masden, DOW). This area has also been identified as having potential for range expansion for elk and bighorn sheep. Present summer use however, is estimated at less than 20 elk and deer, respectively. Of a potential 289 species occurring in the upper elevations of the Wilderness EIS area, only 37 of these species are typically found in alpine areas.

Aquatic Wildlife

No official data are available concerning the aquatic resources within this WSA, but the area contains alpine streams that may contain aquatic wildlife species.

Wilderness Resource

The Weminuche Contiguous WSA contains 1,985 acres of public lands administered by the Bureau of Land Management. While there are no private lands within the WSA, approximately 40 acres of private lands are located between the WSA and the existing Weminuche Wilderness Area. In addition, much of the eastern half of this WSA includes state owned minerals where the BLM administers the surface lands. The southwestern boundary of this WSA is contiguous with the 467,400 acre Weminuche Wilderness Area administered by the San Juan and Rio Grande National Forests.

Well over 90 percent of the WSA is situated in alpine tundra; the highest elevation being 13,434 feet. It contains six distinct peaks, some of which are over 13,000 feet in elevation. Below these rugged mountain peaks are several cirque basins, cut by past glacial action, which contain cold, cascading creeks. Engelmann spruce is found below timberline. Areas near the peaks and high ridges are steep and rocky and support little or no vegetation.

All of man's imprints found within the WSA are associated with past mineral exploration. Some old cabin remnants are found in the northwestern portion of the WSA but they are not substantially noticeable and may be of historical value. Some small prospect pits are located in Spencer Basin. These pits are about five feet across with the removed material piled beside the pit. Topographic screening and the pit's relative small number and size limits the visual impact of these imprints.

The area of man's imprints could be separated from the WSA and the remainder recommended for wilderness designation. The overall influence of human imprints on the naturalness of the area as perceived by the average visitor is negligible.

The rugged peaks and ridges of the WSA separate the basins and tend to isolate them from one another. This topography affords outstanding opportunities for solitude, primarily in the basins and along the drainages. Vegetative screening is not a significant factor as the majority of the WSA is in the alpine tundra. From high points within the area, there are panoramic vistas of the surrounding San Juan Mountains which lend a feeling of vastness spacious solitude to the area. The opportunities for solitude are greatly enhanced by the contiguous Weminuche Wilderness Area.

View into the Animas River Canyon and towards the Grenadier Range in the Whitehead Gulch WSA and Weminuche Wilderness Area

On a ridge looking west; Weminuche Contiguous WSA

Primitive and unconfined recreation opportunities available within the Weminuche Contiguous WSA include hiking, backpacking, horseback riding, mountain climbing, cross-county skiing, photography, and nature study. In addition, recreational opportunities are greatly enchanged by the adjacent Weminuche Wilderness Area.

From the six mountain peaks within the WSA, there are panoramic vistas of the surrounding San Juan Mountains. The alpine tundra and numerous ridges and drainages allow for unconfined freedom of movement as well as the existing trail system.

The scenic quality of the WSA is outstanding, with alpine basins and 13,000 foot plus peaks. Much of this area is alpine tundra with numerous wild flowers in the summer months. The area is of ecologic interest due to the presence of the Altain Starwort (St. Marie irrigna) which is considered rare. Wide, panoramic views of the surrounding mountains can be seen from within this WSA, which is adjacent to the Weminuche Wilderness Area.

Cultural Resource

No detailed inventory has been done on this area, but historic sites related to the mining districts may occur in the area. Many historic mine-related structures are noted in the surrounding areas.

Lands and Access

This area contains approximately 1,900 acres of public domain surface estate. Most of the mineral estate is also public domain, but about 600 acres of mineral estate is owned by the State of Colorado. This parcel of state ownership was originally described by suspended survey as Section 36, but now occupies portions of Sections 25, 26, 35, and 36, T. 41N., R. 7W., N.M.P.M., as described by the protraction diagram.

There is one patented mining claim wholly within the area, Patent #40379, occupying about 10 acres, and many other patented claims on the periphery of the area.

A bill proposing transfer of a portion of this area to Forest Service jurisdiction has been submitted to Congress. This bill would transfer the area of about 500 acres south of the ridge between Sugarloaf Mountain and Whitehead Peak to the Forest Service. A cooperative agreement between the Forest Service and BLM states that the affected lands would retain wilderness study status if the transfer is completed. About 200 acres of the land in the proposed transfer is underlain by state-owned mineral rights. Patent #40379 is also included in the area of the proposal.

Livestock Grazing

Two grazing allotments occur partly within this area with a total of 118 AUMs. The area is grazed by sheep from early July to mid September.

Forestry

The small acreage of spruce timber occurring in this area is withdrawn from the allowable cut base by the timber production capability classification. Small sales of forest products are not generally permitted in this area, due mainly to the remote location and lack of access.

Recreation

This WSA with its expanse of alpine tundra, provides access to and is a geographic continuation of, the adjacent 463,429 acre Weminuche Wilderness Area. Activities presently occurring in or around the area include the viewing of scenery, hiking, backpacking, horseback riding, camping, picnicking, hunting, fishing, mountain climbing, and photography.

There are four trails which provide access into this WSA or the Weminuche Wilderness Area: Spencer Basin, Highland Many Lakes, Deer Park, and North Fork Deer Park Creek. The Forest Service estimates trail use of the Highland Many Lakes as 86 recreation visits per day for a 120 day season (86 visits x 120 days = 10,360 RVDs per season). The Highland Many Lakes Trail is a primary access for trips into the Weminuche Wilderness Area. No accurate use data is available for the other three trails as there are no trail head registers nor is the area currently patrolled by a backcountry ranger.

The Colorado Highway Department has completed a traffic volume study for Colorado State Highway 550 which is west of the WSA. The findings show that a daily average of 1,500 vehicles travel the highway in a day. The average vehicle carries 3.2 travelers which accounts for 4,800 travelers a day over a year (4,800 travelers x 365 days = 1,750,000 travelers per year). This use is not strictly recreational, however, nor is scenic vehicular recreation use wilderness dependent. Some use, although unquantifiable, may be enhanced by the protection of the visual and natural resource values.

Total RVDs in the WSA which are wilderness dependent are estimated in 1980 at 489. This includes 69 RVDs of hunting (deer, elk, bear).

Minerals

The Weminuche Contiguous study area is located on the margin of the highly productive South Silverton mining district. This district has been responsible for the production of over 61 million dollars in precious and base metals during the last hundred years. The ore in this district occurs as vein deposits structurally controlled by fractures radiating from the Silverton Caldera, trending generally northwest to southeast. The trend of these veins can logically be extended into the WSA. A granitic dike, emplaced along a fracture system roughly parallel to the ring fault of the Silverton Caldera, appears to be the southern limit of the intense mineralization of this mining district. However, small surface exposures of veins south of this intrusion have been prospected. The high altitude and limited physical access are probably limiting factors to extensive exploration of this area.

A report issued by the USGS in 1969, Bulletin 1261-F, concerning the mineral resources of the San Juan Primitive Area, identified areas showing evidence of mineral deposits of commercial or near-commercial value. One such area was the extreme northwest corner of what is now the Weminuche Wilderness Area, which is the southern boundary of this study area.

Mining claim records of the BLM indicate several current claims, particularly in the northern portion of the WSA. The area of state mineral ownership is also under lease for mineral exploration.

Economic Analysis

Value of Commodities: Livestock production within and adjacent to the Redcloud Peak WSA consists entirely of sheep grazing, with 118 AUMs allotted on a seasonal basis. The BLM's current grazing fee of $2.31 per AUM places a value of current use at $273 per year. The actual value is higher when considering the AUM's value to the permittees as a loan or resale asset. But on the whole, the value of livestock production within the WSA is considered insignificant on a regional or national level.

There is no saleable timber resources nor mineral production in the WSA.

Employment: Employment currently occurring within the WSA comes from livestock grazing and some mineral exploration. Also associated with the WSA is some unquantifiable amount of recreation - generated employment.

Income by Industry: While no mineral production occurs within the WSA, it is the largest industry in San Juan County -- totalling over $8.8 million in 1976. Tourism is evidently less important to San Juan County's economy than it is to Hinsdales; but there are no figures available to separate tourist dollars from local retail trade dollars. Grazing generated income in San Juan County follows minerals and retail trade in economic importance.

Recreation: The 1980 estimated value of recreation for the Weminuche Contiguous WSA is $17,300 (see Appendix 4.4).

WHITEHEAD GULCH

Topography

This area is very steep, rugged canyon walls rising from the channel of the Animas River at about 8,800 feet elevation to peaks as high as 13,000 feet. This mile-wide expanse of land is dissected by westward flowing streams which are tributaries of the Animas River and whose headwaters are located at the Continental Divide several miles to the east.

Soils

The Whitehead Gulch WSA consists of three soil associations (see Map 3-5). The two primary soil associations are the Cryoboralfs-Rock Outcrop and Rock Outcrop associations.

Water Resource

Perennial streams in the area include Deer Park Creek, Whitehead Gulch, Elk Creek and one unnamed creek, all of which are tributary to the Animas River. Stream gradients are extremely steep and drainage patterns are dendritic. No water quality data is available, but because of wildlife and livestock grazing the surface waters could be contaminated by fecal pathogens.

Vegetation

The lower slopes, up to 12,000 feet, are timbered with Engelmann spruce and subalpine fir. Areas above timberline are mostly alpine tundra consisting of high-altitude species of grasses, forbs, and shrubs. Many of these areas are steep, rocky, and devoid of vegetation.

Terrestrial Wildlife

The Whitehead Gulch WSA contains a limited amount of winter range for several mountain goats which occasionally come from the adjacent Weminuche Wilderness Area. This area is also used to some extent by a small number of deer and elk in the summer.

Aquatic Wildlife

While there is no official data available concerning the aquatic resources within this WSA, the area contains alpine streams that may contain aquatic wildlife species.

Wilderness Resource

The Whitehead Gulch WSA contains 6.200 acres of public lands administered by the Bureau of Land Management. There are no non-public or state-owned mineral lands within this WSA. The eastern and southern boundaries of this WSA are contiguous with the 467,400 acre Weminuche Wilderness Area administered by the Forest Service. The western boundary is primarly comprised of the narrow-gauge railroad right-of-way through the Animas Gorge. This railroad is an historic feature, used primarily by tourists for scenic and recreational purposes.

The WSA ranges in elevation from 8,700 feet along the Animas River up to 13,074 at the summit of Mount Garfield in the Grenadier Range. Most of the WSA lies upon the extremely steep and rugged eastern slope of the Animas River Canyon. Several deep tributary canyons and numerous gulches dissect the area. Densely vegetated aspen and spruce slopes alternate with sheer canyon walls and talus fields along the length of the gorge. Near the southeastern boundary the topography is steep and rocky with near vertical cliffs on Mount Garfield's southwestern face. Here the elevation changes as much as 4,300 feet in one mile.

Imprints of man are primarily old ways or mineral prospects. One way leads to the old Mabel Mine (excluded from the WSA) and is not maintained, it is screened by a dense spruce forest, and is rehabilitating under natural processes. Another old mining trail is located in the northwestern portion of the WSA, as are some old exploration pits and adits; all substantially unnoticeable.

These imprints, although inconsequential, could be separated from the WSA and the remaining area recommended for wilderness designation. The overall influence of human imprints on the naturalness of the area as perceived by the average visitor is negligible.

The steep, narrow and densely forested Animas River Gorge, with its rugged side drainages, provides outstanding opportunities for solitude. The higher portions of the WSA afford scenic vistas of vast landscape-mountains, valleys, forest, tundra, all enhancing the spatial feeling of solitude. Deep narrow canyons such as Whitehead Gulch and Elk Creek provide areas of isolation and intimacy. Throughout much of the area dense stands of spruce and aspen provide vegetative screening. In addition, the Weminuche Wilderness greatly enhances opportunities for solitude.

Rather than reducing opportunities for solitude, the narrow-gauge railroad enhances wilderness values. With the exception of foot and horse trails, the railroad provides the only access into the area. In addition, the historical aspect of the railroad far outweights any adverse sights and sounds which might affect the solitude.

The WSA is surrounded by a rugged mountain landscape including the West Needle Mountains, Needle Mountains, and the Grenadier Range. The combination of jagged peaks, cirque basins, alpine tundra and subalpine forest produce outstanding scenic qualities.

The area is of ecologic interest as it contains the Altain starwort (Stellaria irrigua), which is considered to be rare.

Cultural Resource

No historic or archeological sites are known to exist in the area. The Durango to Silverton Narrow Guage Railroad runs along the western boundary of this area.

Lands and Access

This area contains approximately 6,200 acres of public domain surface estate. Most of the mineral estate is also public domain, except for Section 16, T. 40N., R. 7W., the mineral estate of this section is owned by the State of Colorado, and is under lease for mineral exploration. There is a power site withdrawal covering about 3,500 acres of this area. This withdrawal is scheduled for review in 1983 by the Bureau of Reclamation to determine if it should be retained.

Livestock Grazing

Only the area north of Whitehead Gulch, approximately one-third of the WSA area, is allotted for grazing. This allotment has 118 AUMs and is grazed by sheep from early July to early September.

Forestry

This area contains 3,115 acres of forested land, all of which is Engelman spruce-subalpine fir timber type. Of this acreage, 505 acres are potentially productive forest lands, the rest having been withdrawn from harvest by timber production capability classification. The total volume on the 505 acres classified as harvestable is 4,040 MBF with a potential sustained yield volume of 41 MBF/yr.

Recreation

The Whitehead Gulch WSA, with its rugged and diverse canyons, subalpine forests, and alpine tundra, provides access to and is a geographical continuation of, the adjacent 463,429 acre Weminuche Wilderness Area. Activities occurring in or around the area include the viewing of scenery, hiking, backpacking, horseback riding, camping, picnicking, hunting, fishing, mountain climbing, and photography.

There are two trails which provide access into this WSA and the Weminuche Wilderness Area: Whitehead Trail and Elk Creek. The Forest Service estimates trail use of Elk Creek at six recreation visits per day for a 120 day season (6 visits x 120 days = 720 RVDs per season). The Elk Creek Trail is a primary access (via narrow gauge railroad) for trips into the Weminuche Wilderness Area. No accurate use data is available for the

Whitehead Trail as there are no trail head registers nor is the area currently patrolled by a backcountry ranger.

The Colorado Outward Bound School uses this area during the summer months. Outward Bound has projected a yearly use figure of 3,105 recreation visitor days. The school has used the Whitehead Gulch area and adjacent lands on a continuous basis since 1970. In their cross-country backpacking expeditions, Outward Bound primarily uses the Elk Creek/Elk Park areas.

The narrow-gauge railroad between Durango and Silverton, parallels the western boundary of the WSA. The railroad reported 297.5 recreation visits per day for a 160 day season (297.5 visits x 160 days = 47,600 RVDs per season). The scenic-recreational railroad use is not wilderness dependent, but some use is enhanced by the protection of the visual and natural resource values.

The Colorado Highway Department has completed a traffic volume study for Colorado State Highway 550 which is west of the WSA. The findings show that a daily average of 1,500 vehicles travel the highway in a day. The average vehicle carries 3.2 travelers which accounts for 4,800 travelers a day over a year (4,800 travelers x 365 days = 1,750,000 travelers per year). This use is not strictly recreational however, nor is scenic vehicular recreation use wilderness dependent. Some use, although unquantifiable, may be enhanced by the protection of the visual and natural resource values.

Total RVDs in the WSA which are wilderness dependent are estimated in 1980 at 2,877. This includes 213 RVDs of hunting (deer, elk, bear).

Minerals

Numerous quartz-pyrite veins are exposed in the Whitehead Gulch drainage, some of which show good lead and zinc values. Historic production from this area was mostly gold and silver from sporadic, high-grade deposits. The report prepared by USGS (Bulletin 1261-F) for the evaluation of the San Juan Primitive Area indicates anomalous concentrations of gold, silver, lead, zinc and copper in the Whitehead Gulch drainage. These samples also showed increased concentrations of molybdenum and tin plus traces of numerous other metals. The summary conclusion of the USGS report was that four areas within and adjacent to the San Juan Primitive Area show significant mineralization; the area of Whitehead Gulch was one such area.

South of Whitehead Gulch, the geology changes from the Tertiary volcanics found to the north to mostly precambrian igneous and metasedimentary rocks. However, the mineralized veins found emplaced in these rocks are thought to be related to the Tertiary volcanic activity. Radioactivity in the vicinty of Elk Park was discovered in the mid-1950s. Uranium ores occur in several east-west trending shear zones in this area, and several hundred tons of ore containing economic concentrations of U_3O_8 have been shipped from a small mining operation located on the west side of the river. Exploration has been occurring for several years to determine the exact extent of this ore body on both sides of the river. Hundreds of mining claims are located within the Whitehead Gulch WSA along the trend of this mineralization.

Economic Analysis

Value of Commodities: Livestock production within and adjacent to the Whitehead Gulch WSA consists entirely of sheep grazing, with 118 AUMs allotted on a seasonal basis. The BLM's current grazing fee of $2.31 per AUM places a value of current use at $273 per year. The actual value is higher when considering the AUM's value to the permittees as a loan or resale asset. But on the whole, the value of livestock production within the WSA is considered insignificant on a regional or national level.

Current forestry production is non-existent in the WSA. However, it does contain some saleable timber. The present stumpage value of this timber is $10,155 per year, based on a sustained yield of 41 thousand board feet (MBF) per year.

Employment: Employment currently occurring within the WSA comes from livestock grazing and some mineral exploration. Also associated with the WSA is some unquantifiable amount of recreation - generated employment.

Income by Industry: While no mineral production occurs within the WSA, it is the largest industry in San Juan County -- totalling over $8.8 million in 1976. Tourism is evidently less important to San Juan County's economy than it is to Hinsdales; but there are no figures available to separate tourist dollars from local retail trade dollars. Grazing generated income in San Juan County follows minerals and retail trade in economic importance.

Recreation: The 1980 estimated value of recreation for Whitehead Gulch is $98,600 (see Appendix 4.4).

NEEDLE CREEK

Topography

The Needle Creek WSA contains several small stream drainages which originate on National Forest land to the east and flow in a westerly direction across the study area, creating side canyons in the main canyon of the Animas River. A prominent ridge in the southern part of the area exhibits cirque basins and the associated lakes typical of alpine glaciation. Altitude varies from 8,400 feet to 13,000 feet over steep and mountainous topography.

Soils

The WSA consists of three soil associations (see Map 3-5). The two primary soil associations are the Rock Outcrop-Cryumbrepts-Cryaquepts and Cryoboralfs-Rock Outcrop associations.

Water Resource

The area's drainage system includes several intermittent and perennial streams with very steep gradients and three high mountain lakes. No water quality data is available.

Vegetation

Most of the area is forested primarily with spruce and fir. In the higher portions of the unit, around Mountain View Crest, the vegetation is primarily alpine tundra.

Terrestrial Wildlife

This area and the adjacent Weminuche Wilderness Area provide summer habitat for an undetermined number of deer and elk.

Aquatic Wildlife

While there are no official data available concerning the aquatic resources within this WSA based on fisherperson interviews, the area contains four lakes that appear to support, or have the potential to support, aquatic wildlife species.

Wilderness Resource

The Needle Creek WSA contains 4,620 acres of public lands administered by the Bureau of Land Management. There are no private or state lands within the boundaries; however, there are some patented mining lands between the WSA and the Weminuche Wilderness Area. The western, eastern and most of the southern boundaries of the WSA are contiguous with the 467,400 acre Weminuche Wilderness Area, which is administered by the Forest Service.

The WSA consists of rugged mountains with high peaks, narrow canyons, and several lakes. The elevation of the WSA ranges from 8,357 feet along the Animas River up to 12,998 feet at Overlook Point on Mountain View Crest. Mountain View Crest slopes gently to the southwest in a wide expanse of alpine tundra.

Approximately two miles of the Animas River are included in the extreme northwestern portion of the WSA. The river has cut a deep, steep-sloped gorge with numerous rough tributary canyons. The northern portion of the WSA consists primarily of the eastern side of this gorge with its densely vegetated slopes, talus fields, rock outcrops, and steep side drainages. Needle Creek is the largest tributary to the Animas River within the WSA.

Looking northwest over the Mountain View Crest; Needle Creek WSA

South of Needle Creek the elevation increases and the terrain exhibits evidence of past glaciation. On the northern side of Mountain View Crest are several alpine and subalpine lakes. They include Webb, Pear, Ruby, and Emerald lakes. Emerald Lake is partially on patented land.

The imprints of man are minimal. An old vehicle way crosses the southeastern tip of the WSA. It begins on Forest Service land and has been closed to motorized vehicles. Consisting of two wheel ruts, it is washed out in places, and is now used as a foot and horse trail. This imprint is substantially unnoticeable. It would be extremely difficult and serve little purpose to exclude this imprint from the rest of the WSA. On either corner of the WSA where this old way passes through, the adjacent lands are within the existing Weminuche Wilderness Area. A trail ascends Needle Creek but neither this trail nor the access trails to the lakes are substantially noticeable. The overall influence of human imprints on the naturalness of the area as perceived by the average visitor is negligible.

Opportunities for solitude within the WSA can only be evaluated in relationship to the adjacent Weminuche Wilderness Area. In combination with these lands the opportunities are outstanding. In the northern portion of the WSA, topographic screening is provided by the rugged terrain of the Animas River Canyon and its tributary drainages; Ruby Creek, Pigeon Creek, and Needle Creek. In addition, diverse stands of spruce and aspen provide vegetative screening. In the southern portion of the WSA, the rugged Mountain View Crest and glacial landforms provide outstanding opportunities for solitude. The WSA, combined with the adjacent Forest Service lands, offers both intimacy and spaciousness.

The WSA, in combination with the Weminuche Wilderness Area, contains outstanding opportunities for a primitive and unconfined type of recreation. Numerous opportunities are available and include: fishing, hiking, backpacking, hunting, horseback riding, snowshoeing, cross-country skiing, photography, and nature study. The numerous stream drainages and mountainous terrain in the southern portion of the WSA allows for unconfined freedom of movement. The area contains strenuous and challenging terrain with high wildland values.

The scenic quality of the WSA is outstanding. From high points, especially along Mountain View Crest, there are panoramic views of vast mountainous expanses. The especially impressive crags of the Needle Mountains to the northeast are visible from many places within the WSA. Glacially formed lakes in shades of emerald, aqua, and deep blue, and numerous cascading streams contribute to the scenic quality and diversity of the area. Sedimentary rock strata overlying granitic rock is clearly visible on Mountain View Crest and is of educational, scientific and geologic interest.

Cultural Resource

About two miles of the boundary of this area is adjacent to the Durango to Silverton Narrow Gauge Railway. No historic or archeological sites are known within the area.

Lands and Access

This area is about 4,600 acres of public surface and mineral estate. There are two patented mining claims along the Animas River and a group of patented claims lies south of Needle Creek and is on the periphery of the area. A trail right-of-way exists along Needle Creek through the area. There is a power site withdrawal covering about 2,000 acres of this area. This withdrawal is scheduled for review by the Bureau of Reclamation in 1983 to determine if it should be retained.

Livestock Grazing

This area is not allotted for grazing.

Forestry

Of the 2,345 acres of forested land within this area, all but 161 acres are withdrawn from timber harvest by the timber production capability classification. For the area classified as "no problem," total volume is 704 MBF, capable of a potential sustained yield volume of 13 MBF per year. By MFP decision, timber sales are not permitted in this area. Small sales of minor forest products could be permitted, but due to the remote location and difficult access, such activity is not occurring at present.

Recreation

The Needle Creek WSA is contiguous to the 463,429 acre Weminuche Wilderness Area. This unit, with its rugged canyons, lakes, mountainous topography, subalpine forests and alpine tundra, provides access to and is a geographical continuation of, the Weminuche Wilderness Area. Activities occurring in or around to the area include the viewing of scenery, hiking, backpacking, horseback riding, camping, picnicking, hunting, fishing, mountain climbing, and photography.

Two trails, Needle Creek and Emerald Lake, provide access into this WSA and the Weminuche Wilderness Area. The Forest Service estimates trail use on Needle Creek Trail at 11 recreation visits per day for a 120 day season (11 visits x 120 days = 1,320 RVDs per season). No accurate use data is available for the Emerald Lake Trail as there are no trail registers nor is the area currently patrolled by a backcountry ranger.

The Colorado Outward Bound School uses this area during the summer months. They report a yearly use figure of 3,105 recreation use days. The school has used the Needle Creek area and adjacent lands on a continuous basis since 1970. In their cross-country backpacking expeditions, they use the area around Ruby Creek, Pigeon Creek, and Needle Creek.

The narrow gauge railroad between Durango and Silverton parallels the northern boundary of the WSA. The railroad reported 297.5 recreation visits per day for a 160 day season (297.5 visits x 160 days = 47,600 RVDs per season). This scenic-recreational railroad use is not wilderness dependent, but is enhanced by the protection of the visual and natural resource values.

Total RVDs in the WSA which are wilderness dependent are estimated in 1980 at 3,142. This includes 156 RVDs of hunting (deer, elk, bear).

Minerals

This area is identified by the Department of Energy as containing possible uranium resources, particularly in the granitic rock types in the northern and southern portions of the area. The report on mineral resources of the San Juan Primitive Area by the USGS, Bulletin 1261-F, mentions areas in the headwaters of Needle Creek and Ruby Creek, just east of this area, which show concentrations of copper, lead, zinc, molybdenum, silver, chromium, nickel, and tin.

About 100 mining claims are recorded with BLM in the central part of the area, in Sections 18, 19, and 30. These claims are probably located for uranium exploration in the precambrian metamorphic rocks in this area.

Economic Analysis

Value of Commodities: There is no livestock production in the WSA. There are several mining claims for uranium, but they are not developed yet, and their economic value can not be estimated.

Current forestry production is non-existent in the WSA. However, it does contain some saleable timber. The present stumpage value of this timber is $3,220 per year, based on a sustained yield of 13 thousand board feet (MBF) per year.

Employment: There is no employment associated with the WSA aside from indirect recreation generated employment.

Income by Industry: While no mineral production occurs within the WSA, it is the largest industry in San Juan County -- totalling over $8.8 million in 1976. Tourism is evidently less important to San Juan County's economy than it is to Hinsdales; but there are no figures available to separate tourist dollars from local retail trade dollars. Grazing generated income in San Juan County follows minerals and retail trade in economic importance.

Recreation: The 1980 estimated value of recreation for the Needle Creek WSA is $106,300 (see Appendix 4.4).

CHAPTER 4

ENVIRONMENTAL CONSEQUENCES

Impact Analysis Assumptions

This chapter examines the expected environmental consequences of the various alternatives. As there are 28 alternatives spread over eight WSAs, some method of reducing repetition and duplication is necessary. Therefore, wherever the environmental consequences of a particular alternative duplicates a previously examined alternative, that previous alternative is referenced. Impacts specific to the WSA or alternative are then examined.

In order to provide a standard framework for impact analysis and comparison among alternatives, the following assumptions were used.

1. The short term is considered to be between submission of the wilderness report to Congress 1982 and 1985, since that is the period during which Congress could act on the proposal. The long term is set at year 2000, since the environmental trends of whichever course of action is chosen should appear by that time.

2. BLM will have the funding and work force to implement the course of action chosen.

3. If an area is not designated wilderness, the existing MFP, consistent with applicable laws and regulations, is to be used as the present and future land use guideline.

4. If an area is designated wilderness, the Final Wilderness Management Policy will be used as a guide to those activities which are permissible.

5. If Handies Peak and Redcloud Peak areas are designated wilderness, recreation use will increase initially at a higher rate than the national level (10 percent yearly). If the other areas, which are contiguous to existing wilderness, are designated wilderness, recreation use will parallel the rate of increase of use of the existing wilderness.

6. Wilderness designation will preclude mining activities under the 1872 mining law unless valid claims can be established by December 31, 1983.

7. Development of the Red Mountain alunite deposit may continue, even within designated wilderness.

8. If an area containing state mineral lands or privately-owned lands is designated wilderness, acquisition of those private or state interests may occur through purchase or exchange. Aquisition of non-public owned lands will occur only if the state or private owners concur with the aquisition, or if the acquisition is specifically authorized by Congress to be accomplished by eminent domain.

Energy Requirements and Conservation Potential

Implementation of any alternative would require motor vehicle and aircraft fuel for administration of the area. However, the amount would not be different for any alternative selected, and no conservation potentials are evident.

Non-Affected Resources

The Gunnison Basin and American Flats/Silverton Management Framework Plan for the forestry and livestock grazing resources are presently compatible with the wilderness management guidelines. Therefore, designation of any or all of the WSA's as wilderness will not impact these resources. Additionally, the climate, air quality, geology, and topography of the EIS area would not be affected by any of the alternatives.

REDCLOUD PEAK

ALL-WILDERNESS ALTERNATIVE

Impacts on Soils

Short and long-term would remain essentially unchanged by this alternative; however, increased recreational use could result in soil compaction and erosion in localized areas such as campsites and trails. Prohibition of mining activities would benefit the soil resource by eliminating soil disturbance associated with mining operations which might otherwise occur.

Impacts on Water Resource

An increase in recreational use would result in heavy and frequent use of selected campsites, usually located near surface water, which could degrade the hydrologic conditions of these areas in both the short and long term. Concentrated recreation use has the potential to compact soils and reduce the vegetation cover by trampling, firewood collecting, horse grazing, etc., which results in increased surface runoff and sediment yields. Improper sanitation could result in water quality problems by introducing fecal bacteria into the surface water system.

Eliminating exploration and mining activities would benefit water quality by preventing sediment sources associated with these activities, and chemical contamination resulting from acid mine drainage.

Impacts on Visual Resource

Under this alternative the entire 40,575 acres within the WSA would receive a VRM Class I rating, restricting visual modifications to minimal levels. A potential for severe landform and vegetative modifications remains due to existing mineral exploration and development rights.

If designation results in increased recreation use, slight visual modifications may occur due to development of new trails and campsites.

Potential vegetation losses to natural fires may be slightly increased by wilderness designation due to decreased suppression efforts.

Impacts on Vegetation

Some increased trampling around heavily used campsites could occur, otherwise, impacts would be minimal.

Elimination of mineral exploration and development could benefit the vegetative resource by preventing vegetation removal and alteration. Protection of the wilderness resource, in addition, would allow the natural ecologic processes to continue with little or no interference from man's activities.

Impacts on Terrestrial Wildlife

With implementation of this alternative, there would be no impacts in the short term to terrestrial wildlife species. In the long term, there could be some unquantifiable impacts to wildlife if visitor use increases as projected. Some animal populations could decline, primarily big game such as elk, as a result of potential increases in noise and decreases in space, both due to the possible increases in visitors and visitor days.

In the long term, terrestrial wildlife could be benefited by wilderness designation, primarily because mining activity would be precluded. This would preserve the wildlife habitat from adverse alteration and the wildlife from displacement. Wilderness recreation use can be regulated through a wilderness management plan.

Impacts on Aquatic Wildlife

Wilderness designation for this alternative could aid in preservation of aquatic species by protection of the water resources from any siltation or acidity associated with mineral development.

Increased visitor use may have an unquantifiable impact on the quality of the aquatic and riparian resources (vegetative trampling, bank erosion and compaction, litter, etc.). There may be some impact in the fishery resource over the long-term due to increases in visitor use. However, fishing use can be regulated through a wilderness management plan and in cooperation with the Colorado Division of Wildlife.

Impacts on Wilderness Resource

Designation of this alternative as wilderness would have a short and long term beneficial impact on the wilderness resource values present in the area by providing additional protection. Mining activities, with the possible exception of the Red Mountain alunite deposit, would be limited to valid mining claims after December 31, 1983. This would preclude the majority of mining activities and associated developments such as road construction, subsequent timber removal, and bulldozer exploration. Protection of the wilderness resource values would in turn benefit other related resource values such as wildlife, watershed, and scenic-visual resources. Designation of these lands as wilderness would provide long term benefits by preserving land to permit the natural ecologic processes to continue with little or no interference by man.

Impacts on Cultural Resource

Cultural values would be protected by their isolation from surface disturbing activities and thereby left in a pristine condition. They would be available for future study and evaluation. Vandalism may occur whether the area is designated or not, but vandalism is more likely if the area is not wilderness.

Impacts on Lands and Access

The Wilderness Act provides that for those areas of state-owned or privately owned land wholly within wilderness, such state or private owner shall be given such rights as may be necessary to assure adequate access to such land, or the land shall be exchanged for federally owned land of equal value within the same state. Approximately 280 acres of private land and 1,730 acres of state-owned minerals estate are included in this alternative.

Impacts on Recreation

This alternative would enhance opportunities for primitive recreation. Recreational visitor use would be expected to increase initially at a rate higher than the national average for wilderness recreation use. The increased exposure the area would receive due to public comment and news media coverage during the decision making process, as well as through outdoor recreation magazines and wilderness guide books could cause this additional visitation.

While little research has been completed on the degree of use change, it is expected that a ten percent use increase for a five year period during the decision making process and carrying over into the first years as designated wilderness would represent the upper limits of increased use (based on a consensus of District recreation personnel). After this five year period, use would continue to increase at the projected national average of eight percent per year.

This increase in use of the area would have an effect on users in the long and short term. Focal points such as lakes, streams, and fourteen thousand foot mountain peaks could become crowded or overused, causing some users to move to another location or forego trips into the area. Much of this in the long term could be regulated through a wilderness management plan.

Under this alternative, wilderness-related recreation use is estimated at 3,490 RVDs per year (1980) and is expected to increase to 5,610 RVDs in the short term (1985) and 17,800 RVDs in the long term (2000).

The quality of hunting and fishing in the area over the short and long term would depend to a great extent on management actions taken by the Colorado Division of Wildlife (DOW).

Off-road vehicle (ORV) use would not be permitted, and this would be compatible with the present ORV management plan.

This alternative provides a wide diversity of recreation, from the roaded natural to primitive class. The effects this alternative would have on potential wilderness uses is that an equally wide variety of recreation experiences could be achieved in this area.

Under this alternative it is significant that 32 percent of the WSA is within the primitive recreation opportunity class. The significance of this lies in the fact that potential wilderness users in at least 32 percent of the area could achieve recreation experiences associated with the most pure form of wilderness recreation (e.g., risk taking, challenge, isolation/escape, etc.).

Secondly, it is significant that manageability of the area would be enhanced by the variety of recreation opportunity classes available. This means that the manager would have a greater latitude in exercising options for managing the wilderness resource and its use.

Impacts on Minerals

Designation as wilderness would withdraw approximately 40,000 acres from appropriation under the mining laws and from leasing under the mineral leasing laws, subject to valid existing rights as of December 31, 1983, or the date of designation, whichever is later. Unless valid rights are established on some or all of the approximately 950 mining claims prior to this date, the mineral potential of the entire area will be foregone. To establish a valid right, there must be sufficient evidence that a mineral deposit exists in quantity and quality sufficient to justify a prudent person in the expenditure of labor and means, with a reasonable expectation of developing a mine. It must further be shown that the value of the contained mineral can be extracted, transported, processed and marketed at a profit. Within the study area, the exploration that has occurred to date is of a preliminary nature and has been mostly in the manner of mapping and surface reconnaissance sampling. With the exception of the Red Mountain area, no intensive exploration programs have been undertaken within the area. Such programs would be necessary to establish the validity of claims. Because of certain constraints imposed on mineral exploration within areas being reviewed for possible inclusion in the wilderness system, and because of fluctuations in the metals market, it is unlikely that sufficient exploration will occur within the time frame given to establish the validity of mining claims within this area, even though the potential for the occurrence of valuable mineral deposits is considered high. Therefore this potential would be foregone by designation as wilderness.

Several mineral exploration companies have invested a considerable amount of time, manpower, and money in the preliminary stages of exploration and claim staking. If wilderness designation ensues, and the claims held by these companies are shown to be invalid for lack of discovery, these expenditures will have been lost.

The alunite deposit on Red Mountain, containing 55 million tons of demonstrated reserves within the eastern part of this area, is not subject to appropriation under the mining law, but because of its potassium content it is considered a leasable mineral subject to the provisions of the leasing act.

Procedures were initiated under the mineral leasing provisions prior to the inclusion of this area for wilderness study. The area of the preference right lease application is therefore considered a valid right which may continue to be processed under the mineral leasing provisions, regardless of wilderness designation. The impact to this deposit from this alternative would be more restrictive stipulations imposed on mining operations within wilderness, resulting in increased production costs.

Social Impacts

The impacts to the social well-being of Lake City and Hinsdale County would be minimal as a result of wilderness designation of this unit. People coming into the area to utilize this WSA as a wilderness area will not require immediate or major expansion or construction of services or facilities (i.e., housing, school facilities, law enforcement, water systems, etc.). The primary impact of designation would be economic, through the curtailment of mineral development.

Local public sentiment is largely against the designation of this unit as wilderness. The major concern is with the halting of mineral development. This unit contains, or has the potential to contain, rich deposits. Many residents believe development of these resources will be a great economic boon both to the county generally and to them personally. The state has also stated its intention to retain control of its mineral ownership in this unit. In addition, many local people think their region already has a large enough share of land devoted to wilderness and that designation of this unit will be an unnecessary expansion of the wilderness system.

Economic Impacts

Value of Commodities: If commercially feasible the 55 million-1.5 billion ton alunite deposit could potentially be developed but more restrictive stipulations associated with wilderness designation could inhibit this development.

Employment: There is currently some minimal explorative employment occurring within the WSA. This would be foregone along with any potential employment associated with mineral development under this alternative.

Income by Industry: Tourism is Hinsdale County's main industry and would benefit under this alternative. While there is no current mineral production within the WSA, there is a high potential for future development. This could be foregone by this alternative.

Value of Recreation: The 1980 value of recreation within the WSA is approximately $137,900. This is based on a recreational use of an estimated 3,490 RVDs per year. With the publicity associated with designation, recreational use should increase an estimated 10 percent per year for five years and then level off at the national average of an 8 percent increase per year (see Appendix 4.4). This would produce an estimated value of $221,900 in the short term (1985) and $704,500 in the long term (2000).

Property Taxes: With designation, some or all of the mining claims and patented lands within the WSA would eventually be removed from the property tax rolls. This would mean a loss to Hinsdale County of up to $3,823 per year in tax revenues.

NO-WILDERNESS ALTERNATIVE (No Action)

for Red Cloud

Impacts on Soils

The most significant impact to soils could occur as a result of any mining operations and related facilities. Although mining operations are regulated to prevent unnecessary and undue degradation of resources, some degradation will occur, at least during the period of operation. Regulations also require that disturbed areas be reclaimed, but reclamation of steep, fragile alpine areas will be very costly and may have minimal chance for success. Future mining activities would result in increased soil erosion; however, the magnitude of this impact cannot be quantified until the extent of mining activity is known.

Impacts on Water Resource

Under this alternative increased surface water sediment load could result from future mining operations and related facilities. Water quality could also be adversely affected by increased acid mine drainage and associated heavy metal contamination if additional mines were developed.

Impacts on Visual Resource

Under this alternative the entire WSA would remain in VRM Class II. The potential for landform and vegetative modifications due to mineral development, recreation, forestry and grazing would remain essentially the same as discussed under the All-Wilderness Alternative.

Potential vegetation losses to natural fires would be slightly decreased under this alternative due to greater emphasis on suppression.

Impacts on Vegetation

Under this alternative, mining operations could be undertaken which would destroy vegetation in the area of operations. Reclamation of disturbed areas might not completely mitigate loss of vegetation due to disturbances caused by such operations. The net result would be either a loss of vegetation or change in vegetative types.

Impacts on Terrestrial Wildlife

Under this alternative bighorn sheep, elk, and mule deer could be adversely affected by development of mineral deposits. Those impacts would occur through habitat disruption and visual or noise disturbance associated with future mining activities.

Disturbance in the north and northeastern portions of the area would cause some disruption of summer range, however, this should not result in any decrease in herd size. Any disturbances along the eastern and southern boundaries of the area would result in disruption of elk and bighorn sheep winter range. Due to the limiting factors of winter range this could result in a reduction of herd sizes. The magnitude of this reduction will be directly dependent upon the magnitude of future activities.

Impacts on Aquatic Wildlife

Increased mining activities, which would result in increased acidity and siltation of surface water, could cause an unquantifiable deterioration of aquatic habitat and associated aquatic wildlife.

Impacts on Wilderness Resource

The non-wilderness designation of the WSA would have a short and long term adverse impact on the wildernesss resource values present within the area. With non-designation, mining exploration and development, with the associated road construction, timber removal, and surface disturbance would impair the naturalness of the area.

In the short term, primitive recreation use, wildlife distribution and propagation, watershed protection and enhancement, and soil and vegetative resources would be adversely impacted. In the long term, the wilderness resource values and other uses or resources associated with wilderness would be lost forever in their natural state. Ecological processes could be significantly altered which could in turn adversely affect resources and lands adjacent to the WSA. Aesthetically views into the Redcloud Peak WSA from the adjacent La Garita Wilderness Area, Big Blue Wilderness Area, and Powderhorn Primitive Area would be adversely affected by mineral development.

Mineral development has the potential of significantly altering two fourteen thousand foot peaks; Redcloud Peak (14,034 feet) and Sunshine Peak (14,001 feet). Should mining development and extraction occur on the summit of Sunshine Peak, Colorado could conceiveably lose its lowest "fourteener".

The significance of the area for educational and scientific study as an untrammeled, natural ecosystem could be foregone. Presently, the area is a vast portion of an exposed volcanic caldera which is advantageous to both biological and geological study. The area is in close proximity to Western State College in Gunnison and the Gothic Natural Resource Area north of Crested Butte.

Outstanding opportunities for solitude could be eliminated thus resulting in more use pressure on the existing wilderness areas in the region. Two of the highest human-oriented values of the wilderness resource, and intangibles, are the psychological and spiritual aspects of the wildland resource as they relate to feelings of solitude and intimate space.

At a national level non-designation of this area as wilderness could continue a deteriorating cycle by adversely impacting America's heritage. The Wilderness Act of 1964 states that the wilderness system was established:

> In order to assure that an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas within the United States...
>
> ...it is hereby declared to be the policy of the Congress to secure for the American people of present and future generations the benefits of an enduring resource of wilderness.

Wilderness is a large and important segment of America's history; including the civilization of the West. Thus, non-designation of this area as wilderness would prohibit protection of a "living museum" of the American West's frontier.

Impacts on Cultural Resource

Improved access into the area, which might occur in association with mineral development, could lead to increased deterioration of historic sites through vandalism.

Impacts on Lands and Access

Non-designation as wilderness would mean access to private and state inholdings could be provided with appropriate environmental controls and subject to existing regulations and management decisions.

Impacts on Recreation

In the short term, impacts to recreation are not expected to occur. There would be no immediate, profound changes in recreation use within or immediately around Redcloud Peak WSA if it is not designated wilderness. Some increased use can be anticipated if a major mineral development occurs within this area that would not occur with wilderness designation, and results in a local population increase.

If non-designation results in increased mining activity, the people participating in jeep touring may experience some inconvenience by an increased number of mining-related vehicles using the same roads being used by the recreationists for sightseeing. This could be partially offset if mining activity resulted in roads into areas not currently accessible to vehicles.

Primitive types of recreational use such as backpacking and horseback riding may substantially decline within the WSA due to mining activities. This in turn, might subject adjacent wilderness or primitive areas; La Garita, Big Blue, Powderhorn, to additional visitor use demands because of decreased wilderness acreage in the area.

Under this alternative, wilderness-related recreation use is estimated at 3,490 RVDs per year (1980) and is expected to increase to 5,610 RVDs in the short term (1985). No long term estimate of RVDs is possible under this alterntive, because it is impossible to project the level of commercial development.

Under the No-Wilderness Alternative these existing recreation opportunity classes would remain available, at least initially. To the extent that other resource management action or backcountry recreation use itself would alter (and thereby change) these classes, the composition of available recreation would be changed.

Impacts on Minerals

This alternative would allow exploration and development of mineral resources subject to the surface management regulations which are designed to prevent unnecessary and undue degradation of the environment and which require reasonable reclamation of disturbance caused by mining activities. There would be no deadline for proving the economic feasibility of a mining operation at a time when the market for the particular mineral in question may be depressed.

The alunite deposit on Red Mountain is the only deposit with enough exploration data to support an economic evaluation, but this deposit could possibly be developed regardless of wilderness designation.

Social Impacts

Non-designation of this unit would have no significant impact on the social well-being of the region. Impacts on local attitudes would be positive.

Economic Impacts

Value of Commodities: Under this alternative, the mineral resources within the WSA could be developed to their maximum potential consistent with the normal environmental stipulations of multiple use management. There would be no time limit on development.

Employment: Employment associated with the alunite deposit or other mineral resources could be developed to its full potential. There is no way to forecast employment for undeveloped and undiscovered minerals.

Without designation, tourist and recreation generated employment would probably continue as at present, or decline if extensive mineral development occurs.

Income by Industry: Under this alternative, Hinsdale County's tourist economy would continue to increase at the present rate if no mineral development occurs. If development occurs, the mineral generated income would increase.

Value of Recreation: Due to the publicity discussed in the All-Wilderness Alternative, the short term (1985) effects of non-designation should be the same as designation. In the long term (2000), however, the effects of non-designation are unknown and depend upon whether mineral development occurs or not. If it does not occur, the recreational usage will continue to increase, but by an unknown amount.

Property Taxes: There would be no effect upon present property tax revenues to Hinsdale County. If mineral development occurs, tax revenues would increase with increased property values.

WILDERNESS MANAGEABILITY ALTERNATIVE

for Red Clo

Impacts on Soil, Water, Vegetation, Terrestrial and Aquatic Wildlife, and Cultural resources would essentially be the same under this alternative as in the All-Wilderness Alternative. In addition, impacts to Social uses would be the same as discussed in the All-Wilderness Alternative.

Impacts on Visual Resource

Under this alternative 37,530 acres would be placed under VRM Class I objectives.

Impacts on Wilderness Resource

This alternative is primarily an adjustment of the WSA boundaries to provide for increased manageability of the wilderness resource values. The boundaries have been adjusted to exclude potential conflicts with trail head access, motorized vehicle use, and peripheral non-public lands. These boundary adjustments should serve to protect the wilderness resource values; especially the core portion of the unit. The impacts described under the All-Wilderness Alternative would apply under this alternative.

Impacts on Lands and Access

The impacts would be the same as those described in All-Wilderness Alternative except to a slightly smaller degree. Approximately 35 acres of private land and 400 acres of state mineral estate which would be completely surrounded by wilderness under the All-Wilderness Alternative will be outside the wilderness boundary under this alternative. Access to these excluded properties could be provided under this alternative without regard to preserving the wilderness character. About 245 acres of private land and 1,330 acres of state-owned minerals are included in this alternative.

Impacts on Recreation

Under this alternative the composition of recreation opportunities and acreage available to wilderness users is essentially the same as in the All-Wilderness Alternative. A slight reduction (2 percent) in the primitive recreation opportunity class would result along with a 5 percent reduction in the semi-primitive, non-motorized recreation opportunity class.

Impacts on Minerals

Some of the base and precious metal deposits associated with the caldera ring fault and radial fracture pattern along the south side of Henson Creek and the area near Sherman Townsite could be explored and possibly developed under this alternative which would not be available under the All-Wilderness Alternative. Approximately 3,000 acres would remain open to mineral entry and 37,000 acres containing about 900 mining claims would be withdrawn. Essentially, all the impacts described in the All-Wilderness Alternative would apply to this alternative with the exceptions noted above.

Economic Impacts

Value of Commodities: This alternative would have essentially the same effect upon the mineral resources within the WSA as the All-Wilderness Alternative. There would be some mining claims, state-owned minerals, and patented lands excluded from designation under this alternative. The mineral resources on these lands could be developed without wilderness stipulations or time limits.

Employment: Employment under this alternative would essentially remain as discussed under the All-Wilderness Alternative. Some employment might be generated by mineral development of the non-designated area of the WSA. This would not affect employment generated by tourism or recreation in the designated portion.

Income by Industry: Under this alternative, tourism would remain the main income producer within the WSA, unless some mineral development occurs in the non-designated part of the WSA.

Value of Recreation: As the non-designated part of the WSA receives so little of the recreational useage of the WSA, the value of recreation should remain as discussed in the All-Wilderness Alternative (see Appendix 4.4).

Property Taxes: With designation, some or all of the mining claims and patented lands within the designated area could eventually be removed from the property tax rolls. This could mean a loss to Hinsdale County of up to $3,593 per year in tax revenues.

CONFLICT RESOLUTION ALTERNATIVE I

Impacts on Soil, Water, Vegetation, Aquatic Wildlife, Cultural, Social, and Lands and Access resources would be essentially the same under this alternative as in the All-Wilderness Alternative.

Impacts on Visual Resource

Under this alternative 29,680 acres would be given a VRM Class I rating. The potential for visual impact would remain as discussed under the All-Wilderness Alternative. However, the possibility of severe landform changes associated with adjacent alunite development may adversely affect the overall scenic quality of the designated wilderness area.

Impacts on Terrestrial Wildlife

This alternative would exclude a portion of the identified habitat for bighorn sheep summer range from the protection associated with by wilderness designation. Specific impacts to this habitat would be considered whenever specific proposals are made for this excluded area.

Impacts on Wilderness Resource

This alternative coincides with the boundaries of the Wilderness Manageability Alternative with the exception that this alternative excludes the Red Moutain alunite deposit and its associated potential transportation routes needed for ore extraction. This alternative would still protect the core portion containing the major wilderness values. In addition, those beneficial impacts to the wilderness resource as a result of mining being precluded as delineated in the All-Wilderness Alternative, would apply under this alternative.

Impacts on Recreation

Under this alternative wilderness-related recreation use is estimated at 2,960 RVDs per year (1980) and 4,770 RVDs in 1985. In the long term (2000) development could reduce visitor use to 15,130 RVDs as opposed to the 17,800 All-Wilderness level.

This alterntive would result in reduction in the amount of acreage available in each opportunity class. That portion of the WSA exhibiting the capability to provide the more pristine forms of wilderness recreation would be reduced from 32 percent to 26 percent. Similarily, opportunities for semi-primitive non-motorized forms of wilderness recreation would be reduced by 10 percent. Smaller portions of the WSA would be available for semi-primitive motorized and roaded natural wilderness recreation opportunities.

Impacts on Minerals

Impacts would be as described in the All-Wilderness Alternative, with the exception of the exclusion of the Red Mountain alunite deposit and the potential precious and base metal deposits along the eastern boundary of the area. Although the development of the alunite deposit may take place within designated wilderness, development under this alternative outside of designated wilderness would be more likely because of less restrictive stipulations, and the lack of opposition that might be expected if a large-scale development is proposed within a designated wilderness. Approximately 31,000 acres would be withdrawn from mineral entry; this area contains about 750 mining claims.

Economic Impacts

Value of Commodities: Under this alternative, if economically feasible, the alunite deposit could be developed without the environmental stipulations that wilderness designation would incur. Other mineral values would still be within the designated area and would probably be foregone.

Employment

If the alunite deposit were developed, the employment potential would be as discussed in the No-Wilderness Alternative. Employment by the tourist industry would probably increase due to the minimal impact upon recreational useage by the alunite development.

Income by Industry: If the alunite is not developed, tourism would remain as Hinsdale County's main industry and should increase with the projected increase in recreation. If it is developed, mineral production would become the main industry.

Value of Recreation: The non-designated part of the WSA receives approximately 15 percent of the recreational useage of the WSA. Assuming all recreational value of the non-designated area would be lost after 1985 by alunite development, the recreational value in the long term (2000) would be 85 percent of the All-Wilderness Alternative. The value of recreation in 1980, estimated to be $137,900, increases to $221,934 in 1985. With development of alunite after 1985 the recreation value increases to $598,800 in the year 2000 instead of the All-Wilderness value of $704,500 (see Appendix 4.4).

Property Taxes: With designation, some or all of the mining claims and patented lands within the designated area would eventually be removed from the property tax rolls. This would mean a loss to Hinsdale County of up to $3,593 per year in tax revenues.

CONFLICT RESOLUTION ALTERNATIVE II

for Red Cloud

Impacts on Soil, Water, Vegetation, Aquatic Wildlife, Cultural, and Social resources would be essentially the same under this alternative as in the All-Wilderness Alternative. Impacts to the non-designated portion of the WSA would be as described in the No-Wilderness Alterntive.

Impacts on Visual Resource

Under this alternative 11,140 acres containing Sunshine and Redcloud Peaks would receive a VRM Class I rating. Potential modifications within the designated area would be the same as discussed under the All-Wilderness Alternative. However, the potential for severe landform modifications in the adjacent lands may adversely affect the natural character of the area recommended for wilderness designation.

Impacts on Terrestrial Wildlife

Under this alternative only a small portion of the elk, deer and bighorn sheep habitat would be included within those lands recommended for wilderness designation. The majority of the wildlife habitat would be included in lands recommended for non-wilderness designation and impacts, described under the No-Wilderness Alternative, would essentially be the same. This alternative does not adequately represent ecologic boundaries associated with wildlife habitat, migration, and wildlife use.

Impacts on Wilderness Resource

This alternative is a minerals-wilderness compromise. Approximately three-fourths of the WSA would be adversely affected by non-designation. Within these excluded lands, mining exploration and development could significantly alter the natural landscape and wilderness values as described in the No-Wilderness Alternative. In addition, views into the Redcloud Peak WSA from the adjacent La Garita Wilderness Area, Big Blue Wilderness Area, and Powderhorn Primitive Area could be adversely affected by mineral development.

That portion recommended for designation includes Sunshine Peak and Redcloud Peak, Cooper Creek and Silver Creek. This alternative would logically be related to wilderness designation alternatives for the Handies Peak WSA. Those beneficial impacts described in the All-Wilderness Alternative would also apply to the area recommended for wilderness designation.

Impacts on Recreation

Under this alternative wilderness-related recreation use is estimated at 3,490 RVDs per year (1980) and 5,610 RVDs in 1985. In the long term (2000) development could reduce visitor use to 8,900 RVDs as opposed to the 17,800 All-Wilderness level.

This alternative results in the most substantial reduction in acreage available in the various opportunity classes, with the exception of the No-Wilderness Alternative. The roaded natural and semi-primitive, motorized opportunity classes are nearly eliminated in this alternative. In addition, only 9 percent of the total WSA in the primitive class would be included. Implications for potential users is that a sizeably smaller portion of the WSA would be available for the most pristine types of wilderness recreation. Additionally, managers would have fewer options to exercise in administering future wilderness use because of the reduction in acreage available in all the opportunity classes included in this alternative. For example, the selection of this alternative conceivably could jeopardize or eliminate particular settings on the Henson Creek side of the WSA. These settings are deemed desireable for managing the primitive and semi-primitive, non-motorized opportunity classes available in the Redcloud Peak WSA.

Impacts on Lands and Access

This alternative includes three parcels of private lands aggregating about 45 acres. Impacts associated with private inholdings are as discussed under the All-Wilderness Alternative. The boundaries of this alternative are drawn so as to eliminate conflict with any of the parcels of state-owned minerals.

Impacts on Minerals

This alternative would withdraw approximately 11,000 acres containing about 400 mining claim from mineral entry. This area includes identified areas of potential uranium and molybdenum mineralization, as well as good showings of precious and base metal sulfide veins. The potential for development of these resources would be foregone if this area is designated wilderness.

Economic Impacts

Value of Commodities: Under this alternative most of the patented lands and mining claims, and all of the state-owned minerals would be outside of the designated area. This would allow them to be developed without the stipulation or time limits of wilderness designation.

Employment: Employment associated with the alunite could be as discussed in the No-Wilderness Alternative. Other mineral-related employment could increase if mineral development of the approximately 500 mining claims outside the designated area occurs.

Employment by the tourist industry should continue as at present for the short term; but may decline, depending upon the extent of mineral development, in the long term.

Income by Industry: Income by industry should be essentially the same as discussed under the Conflict Resolution Alternative I.

Value of Recreation: Approximately 50 percent of all recreational useage occurs in the western part of the WSA designated under this alternative. Thus, the publicity associated with designation would probably increase recreation values in the short term (1985) as discussed in the All-Wilderness Alternative to $221,900. But if extensive mineral development occurs in the non-designated portion of the WSA, 50 percent of the long term benefits could be lost giving a value of recreation of $352,200 in 2000 (see Appendix).

Property Taxes

With designation, some or all of the mining claims and patented lands within the designated area could eventually be removed from the property tax rolls. This would mean a loss to Hinsdale County of up to $1,512 per year in tax revenues.

HANDIES PEAK

ALL-WILDERNESS ALTERNATIVE

Impacts on Soil, Water, Aquatic Wildlife, Cultural and Social resources would be essentially the same under this alternative as in the Redcloud All-Wilderness Alternative, but to a lesser degree.

Impacts on Visual Resource

Under this alternative, the entire 18,860 acres within the WSA would be given a VRM Class I rating. The potential for visual modifications due to other activities would be similar to those discussed under the Redcloud Peak All-Wilderness Alternative.

Impacts on Vegetation

Some increased trampling and soil compaction around heavily used campsites could alter or reduce vegetative cover.

Elimination of mineral exploration and development could benefit the vegetative resource by preventing vegetation removal and alteration. Protection of the wilderness resource, in addition, would allow the natural ecologic process to continue with little or no interference from man's activities.

Impacts on Terrestrial Wildlife

With implementation of this alternative, there would be no significant impacts in the short term to terrestrial wildlife species. In the long term, there could be some unquantifiable impacts to wildlife if visitor use increases as expected. Some animal populations could decline (primarily big game such as elk) as a result of potential increases in noise and decreases in space, both due to the possible increases in visitors and visitor days.

In the long term, terrestrial wildlife would be benefited by wilderness designation, primarily because mining activity would be precluded. This would preserve the wildlife habitat from adverse alteration and the wildlife from displacement. Wilderness recreation use and hunting pressure can be regulated through a wilderness management plan.

Impacts on Wilderness Resource

The designation of the WSA as wilderness would have a short and long term beneficial impact on the wilderness resource values present in the area by providing additional protection. Mining activities would be limited to valid mining claims established before December 31, 1983. This would preclude the majority of mining activities and associated developments such as road construction, subsequent timber removal, and bulldozer exploration. Protection of the wilderness resource values would in turn benefit other related resource values such as wildlife, watershed, and scenic-visual resources. Designation of these lands as wilderness would provide long term benefits by preserving land to permit the natural ecologic processes to continue with little or no interference by man.

In addition, wilderness designation would enhance and increase outstanding opportunities for solitude and primitive recreation in Southwestern Colorado.

Impacts on Lands and Access

This alternative would include approximately 145 acres of private land and about 600 acres of state-owned mineral estate. Impacts would be as described in the Redcloud Peak All-Wilderness Alternative.

Impacts on Recreation

This alternative would enhance opportunities for primitive recreation. Recreational visitor use would be expected to increase initially at a rate higher than the national average for wilderness recreation use. The increased exposure the area would receive due to public comment and news media coverage during the decision making process, as well as through outdoor recreation magazines and wilderness guide books, could cause this additional visitation.

While little research has been completed on the degree of use change, it is expected that a ten percent use increase for a five year period during the decision making process and carrying over into the first years as designated wilderness would represent the upper limits of increased use (based on a consensus of District recreation personnel). After this five year period, use would continue to increase at the projected national average of eight percent per year.

This increase in use of the area would have an effect on users in the long and short term. Focal points such as lakes, streams, and fourteen thousand foot mountain peaks could become crowded or overused causing some users to move to another location or forego trips into the area. Much of this in the long term could be regulated through a wilderness management plan.

Under this alternative, wilderness-related recreation use is estimated at 3,150 RVDs per year (1980) and is expected to increase to 5,070 RVDs in the short term (1985) and 16,100 RVDs in the long term (2000).

The quality of hunting and fishing in the area over the short and long term would depend to a great extent on management actions taken by the Colorado Division of Wildlife (DOW).

Off-road vehicle (ORV) use would not be permitted, and this would be compatible with the present ORV management plan (see Appendix 4.1).

Impacts on Minerals

Approximately 19,000 acres containing about 160 mining claims would be withdrawn from mineral entry under the mining and mineral leasing laws, subject to valid existing rights. Because of time constraints for establishing a valid right, the mineral potential of this area would be foregone.

Economic Impacts

Value of Commodities: No mineable quantities of ore have been located in the Handies Peak WSA; however, numerous mining claims and a high potential for precious and base metal production exist. Wilderness designation would essentially negate any mineral value present if the value was not proven before December 31, 1983.

Employment: There is currently some minor amounts of mineral exploration employment occurring within the WSA. This would be foregone along with any potential employment associated with mineral development under this alternative.

Employment due to tourism in Hinsdale County would increase an undetermined amount under this alternative.

Income by Industry: Impacts would be as discussed in the Redcloud Peak All-Wilderness Alternative.

Value of Recreation: The present value of recreation within the WSA is approximately $114,600 per year. This is based on a recreational use of an estimated 3,150 RVDs per year. With the publicity associated with designation, recreational use should increase an estimated 10 percent per year for five years and then level off at the national average of an 8 percent increse per year.

This would produce an estimated value of $184,500 in the short term (1985) and $585,600 in the long term (2000) (see Appendix 4.4).

Property Taxes: With designation, some or all of the mining claims and patented lands within the WSA would eventually be removed from the property tax rolls. This would mean a loss to Hinsdale County of up to $785 per year in tax revenues.

NO-WILDERNESS ALTERNATIVE

Impacts on Soil, Water, Vegetation, Aquatic Wildlife, Cultural, Lands and Access and Social resources would be essentially the same under this alternative as in the Redcloud Peak No-Wilderness Alternative, but to a lesser degree.

Impacts on Visual Resource

Under this alternative, the entire area would remain under VRM Class II objectives. The potential exists for severe impacts to the scenic quality of the WSA, and would be essentially the same as discussed under the Redcloud Peak No-Wilderness Alternative.

Impacts on Terrestrial Wildlife

Under this alternative bighorn sheep and elk could be adversely affected by development of mineral deposits. These impacts would occur through habitat disruption and visual or noise disturbances associated with future mine activities. Distrubance of the bighorn sheep winter range along the Lake Fork, Cataract Gulch, and Boulder Gulch could result in a reduction of herd size. The magnitude of this reduction will be directly dependent upon the magnitude of further activities.

Impacts on Wilderness Resource

The non-designation of the WSA would have a short and long term adverse impact on the wilderness resouce values present within the area. With non-designation, mining exploration and development, with associated road construction, timber removal and surface disturbance could impair the naturalness of the area.

In the short term, primitive recreation use, wildlife distribution and propagation, watershed protection and enhancement, and soil and vegetative resources would be adversely impacted. In the long term, the wilderness resource values and other uses or resources associated with wilderness would be lost forever in their natural state. Ecological processes could be significantly altered which could in turn adversely affect resources and lands adjacent to the WSA. Aesthetically, views into the Handies Peak WSA from the adjacent La Garita Wilderness Area, Big Blue Wilderness Area, and Mt. Sneffels Wilderness Area would be adversely affected by mineral development.

Mineral development has the potential of significantly altering Handies Peak (14,048 feet). This could affect climbing routes and scenic views of the "fourteener".

The significance of the area for educational and scientific study as an untrammeled, natural ecosystem would be foregone. Presently the area is advantageous to both biological and geological study. The area is in close proximity to Western State College in Gunnison and the Gothic Natural Resource Area north of Crested Butte.

Outstanding opportunities for solitude would be eliminated thus resulting in more use pressure on the existing wilderness areas in the region. Two of the highest human-oriented values of the wilderness resource, and intangibles, are the psychological and spiritual aspects of the wildland resource as they relate to feelings of solitude and intimate space.

At a national level, non-designation of this area as wilderness would add to the continuing loss of America's heritage, the western frontier. Specifically, the Wilderness Act of 1964 states the the wilderness system was established, "to assure that an increasing population, accompanied by expanding settlement and growing mechanization does not occupy and modify all areas within the United states."

Impacts on Minerals

This alternative would allow continued exploration and possible development of the identified mineral resources of this area. Development of mineral resources would be subject to environmental controls to prevent undue and unnecessary degradation of surface resources, but without regard to preserving the wilderness characteristics of the area.

Exploration of areas of identified mineral potential could eventually lead to production of raw materials necessary to stimulate the economic well-being of the local communities and the State of Colorado and possibly the nation as a whole, since some of the identified commodities in this area are presently imported.

Impacts on Recreation

Non-designation of the area would, temporarily at least, simply mean a continuation of the situation that exists at present. There would be no immediate, profound changes in recreation use within or immediately around the WSA if it is not designated wilderness. Some increased use can be anticipated if a major mineral development occurs within this area that would not occur with wilderness designation, resulting in a local population increase. This could be caused by increased accessibility due to potential road construction.

Primitive types of recreation use such as backpacking and horseback riding may substantially decline within the WSA due to mining activities. This in turn could adversely affect the wilderness experience within the contiguous wilderness area as this WSA serves as access into the wilderness area.

Under this alternative wilderness-related recreation use is estimated at 3,150 RVDs per year (1980) and is expected to increase to 5,070 RVDs in the short term (1985). No long term estimate of RVDs is possible under this alternative, because it is impossible to project the level of commerical development (see Appendies 4.1, 4.2).

Economic Impacts

Impacts to Value of Commodities, Income by Industry, Value of Recreation and Property Taxes under this alternative would be as discussed in the Redcloud No-Wilderness Alternative.

Employment: Employment associated with mineral development could benefit under this alternative. As the mineral resources are now only being explored, it is impossible to forecast the amount of employment that could result from mineral development.

Without designation, tourists and recreation generated employment would probably decline if extensive mineral development occurs.

WILDERNESS MANAGEABILITY ALTERNATIVE

Impacts on Soil, Water, Vegetation, Aquatic Wildlife, Cultural, and Social resources would be essentially the same under this alternative as in the Redcloud Peak Wilderness Manageability Alternative, but to a lesser degree. The Terrestrial Wildlife impact will be the same as the No-Wilderness Alternative, Handies Peak.

Impacts on Visual Resource

Under this alternative 8,220 acres would receive VRM Class I rating. Included would be Handies Peak and adjacent features, which are the most prominent scenic components of the WSA. Potential visual modifications in the designated area would be essentially the same as discussed under the All-Wilderness Alternative, with reduced potential from mineral related modifications.

Impacts on Wilderness Resource

This alternative is primarily an adjustment of the WSA boundaries to provide for increased manageability of the wilderness resource values. Some high potential mineral resource lands and lands deemed manageable because of their relative isolation from the core of Handies Peak and lack of adjacent federally endorsed wilderness are recommended for No-wilderness designation. The boundaries around that portion recommended for All-Wilderness designation have been adjusted to exclude potential conflicts with motorized vehicle use and trail head access. These boundary adjustments should serve to protect the wilderness resource values; especially the core portion of the unit. Those beneficial impacts described under the All-Wilderness Alternative would apply to those lands in this alternative recommended for wilderness designation.

For those lands included within this alternative and recommended for non-wilderness designation, the impacts would essentially be the same as described in the No-Wilderness Alternative; Handies Peak.

Impacts on Lands and Access

This alternative would include approximately 80 acres of private land and about 400 acres of state-owned minerals on which the impacts would be the same as those described in the Redcloud Peak All-Wilderness Alternative. On the remaining private lands and state mineral holdings which would be outside of the wilderness boundary, impacts would be as described in the No-Wilderness Alternative.

Impacts on Minerals

This alternative would withdraw about 8,300 acres from all forms of mineral entry. The area described by this alternative is the area having the most significant mineral potential within the WSA, and there are currently 135 mining claims in this area. The identified mineralized zones of the caldera ring fault, the Whitecross mining district and Handies Peak itself are included in this alternative. Potential for economic deposits of gold, silver, lead, zinc, molybdenum, copper, nickel and cobalt would be foregone if this area is designated wilderness.

Impacts on Recreation

Under this alternative, wilderness-related recreation use is estimated at 3,150 RVDs per year (1980) and 5,070 RVDs in 1985. In the long term (2000) development could reduce visitor use to 8,000 RVDs as opposed to the 16,100 All-Wilderness level (see Appendix 4.1).

Economic Impacts

Value of Commodities: Most of the mineral potential within the WSA lies within the designated area under this alternative. Therefore, impacts would essentially be the same as discussed in the All-Wilderness Alternative. There would be some mining claims, state-owned minerals, and patented lands excluded from designation under this alternative. These lands could be developed without wilderness stipulations or time limits.

Employment: Employment associated with mineral development would essentially remain as discussed under the All-Wilderness Alternative. Some employment might be generated by mineral development in the non-designated part of the WSA.

About half of the recreation usage within the WSA occurs in the area designated under this alternative, and mineral development would not occur immediately. Thus, employment generated by tourism would increase in the short term and stabilize or even decrease in the long term if mineral development occurs.

Income by Industry: Under this alternative, tourism would remain the main income producer within the WSA, unless some mineral development occurs in the non-designated part of the WSA.

Value of Recreation: Approximately 50 percent of the present recreational usage occurs within the part of the WSA designated under this alternative. Thus, in the short term, recreational values should increase as discussed in the All-Wilderness Alternative. But if extensive mineral development in the non-designated part of the WSA occurs, 50 percent of the long term benefits could be lost. This would result in a long term benefit of $292,800 (see Appendix 4.4).

Property Taxes: With designation, some or all of the mining claims and patented lands within the designated area would eventually be removed from the property tax rolls. This would mean a loss to Hinsdale County of up to $630 per year in tax revenues.

CONFLICT RESOLUTION ALTERNATIVE

Impacts on Soil, Water, Vegetation, Aquatic Wildlife, Cultural, and Social resources would be essentially the same under this alternative as in Redcloud Peak All-Wilderness Alternative, but to a lesser degree. The Terrestrial Wildlife impact would be the same as the impacts under the No-Wilderness Alternative, Handies Peak. Recreation impacts would be the same as described under the Wilderness Manageability Alternative; Handies Peak (see Appendicies 4.1, 4.2).

Visual Resource

Under this alternative 7,120 acres would be given a VRM Class I rating. The potential visual impacts in the designated area would be the same as discussed in the Redcloud Peak All-Wilderness Alternative. Visual impact due to mineral activity in the adjacent areas within the WSA may have an adverse influence on the scenic resources both within and outside of the designated area.

Impacts on Wilderness Resource

The impacts, both beneficial and adverse would essentially be the same as described under the Wilderness Manageability Alternative. The only difference between the two alternatives is that this alternative excludes state-owned minerals northeast of Whitecross Mountain.

Impacts on Lands and Access

No state mineral holdings would be included in this alternative. Other impacts are the same as described in the Manageability Alternative.

Impacts on Minerals

About 7,120 acres would be withdrawn from mineral entry. Other impacts will remain as described in the Manageability Alternative.

Economic Impacts

Impacts to Value of Commodities, Employment, Income by Industry and Value of Recreation would be as discussed in the Wilderness Manageability Alternative. Changes would be that all of the state-owned minerals and more of the mining claims and patented lands would be excluded from the designated area. Recreational usage or values would not change from the Wilderness Manageability Alternative.

Property Taxes: With designation, some or all of the mining claims and patented lands within the designated area would eventually be removed from the property tax rolls. This would mean a loss to Hinsdale County of up to $587 per year in tax revenues.

AMERICAN FLATS

ALL-WILDERNESS ALTERNATIVE

Impacts on Soil, Water, Vegetation, Wildlife, Cultural, and Social resources would be essentially the same under this alternative as in the Redcloud Peak All-Wilderness Alternative, but to a lesser degree. Impacts on Wilderness would be essentially the same under this alternative as in the Handies Peak All-Wilderness Alternative.

Impacts on Visual Resource

Under this alternative the entire 4,710 acres within the WSA would be given a VRM Class I rating. Potential visual modifications under this alternative would be similar to those discussed under the Redcloud Peak All-Wilderness Alternative.

Impacts on Terrestrial Wildlife

No impacts are expected to occur.

Impacts on Lands/Access

No significant impacts to Lands and Access can be identified.

Impacts on Recreation

Recreational visitor use would be expected to parallel the visitor use in the contiguous Big Blue Wilderness Area. Focal points such as lakes or streams could conceiveably become crowded or overused, but much of this in the long term could be regulated through a wilderness management plan.

Under this alternative wilderness-related recreation use is estimated at 2,130 RVDs per year (1980) and is expected to increase to 3,130 RVDs in the short term (1985) and 9,900 RVDs in the long term (2000).

Off-road vehicle (ORV) use would not be permitted, and this would be compatible with the present ORV Management Plan (see Appendix 4.1).

Impacts on Minerals

About 4,700 acres would be withdrawn from mineral entry. This area would include the potential mineral deposits on Dolly Varden Mountain, Sunshine Mountain and the North Fork of Henson Creek drainage. Currently there are 44 mining claims in this WSA. The potential for production of the identified commodities would be foregone by designation of this area as wilderness.

Economic Impacts

Commodities: The American Flats WSA has areas with a high or moderate potential for precious and base metal production. Wilderness designation would essentially negate any mineral value present if the value was not proven before December 31, 1983

Employment: There is currently some minor amounts of mineral exploration employment occurring within the WSA. This would be foregone along with any potential employment associated with mineral development under this alternative.

Income by Industry: Impacts under this alternative would be as discussed in the Redcloud All-Wilderness Alternative.

Value of Recreation: The present value of recreation within the WSA is approximately $72,800 per year. This is based on a recreational use of an estimated 2,130 RVDs per year. With the publicity associated with designation, recreational use should increase an estimated 10 percent per year for five years and then level off at the national average of an 8 percent increase per year. This would produce an estimated value of $107,100 in the short term (1985) and $339,400 in 2000 (see Appendix 4.4).

Property Taxes: With designation, some or all of the mining claims and patented lands within the WSA would eventually be removed from the property tax rolls. This would mean a loss to Hinsdale County of up to $147 per year in tax revenues. As three mining claims within the WSA are in Ouray County, it would lose approximately $11 per year in tax revenues.

NO-WILDERNESS ALTERNATIVE

Impacts on Soil, Water, Vegetation, Wildlife, Cultural, Lands and Access and Social resources would be essentially the same under this alternative as in the Redcloud Peak No-Wilderness Alternative, but to a lesser degree.

Impacts on Visual Resource

Under this alternative, the entire WSA would remain in VRM Class II. The WSA may be subject to potentially severe modifications similar to those discussed under the Redcloud Peak No-Wilderness Alternative.

Impacts on Terrestrial Wildlife

No impacts are expected to occur.

Impacts on Wilderness Resource

The non-designation of the WSA would have a short and long term adverse impact on the wilderness resouce values present within the area. With non-designation, mining exploration and development, with associated road construction, timber removal and surface disturbance could impair the naturalness of the area.

In the short term, primitive recreation use, wildlife distribution and propagation, watershed protection and enhancement, and soil and vegetative resources would be adversely impacted. In the long term, the wilderness resource values and other uses or resources associated with wilderness would be lost forever in their natural state. Ecological processes could be significantly altered which could in turn adversely affect resources and lands adjacent to the WSA. Of critical concern is that non-designation of this WSA, or portion therein as wilderness, could severely hamper or even deteriorate the wilderness resource and wilderness management of the contiguous U.S. Forest Service Wilderness Area.

Mineral development has the potential of significantly altering the visual character of these mountainous and ecologically fragile wildlands.

The significance of the area for educational and scientific study as an untrammeled, natural ecosystem would be foregone. Presently the area is advantageous to both biological and geological study. The area is in close proximity to Western State College in Gunnison, the Gothic Natural Resource Area north of Crested Butte, and Fort Lewis College in Durango.

Outstanding opportunities for solitude would be eliminated thus resulting in more use pressure on the existing wilderness areas in the region. Two of the highest human-oriented values of the wilderness resource, and intangibles, are the psychological and spiritual aspects of the wildland resource as they relate to feelings of solitude and intimate space.

At a national level, non-designation of this area as wilderness would add to the continuing loss of America's heritage, the western frontier. Specifically, the Wilderness Act of 1964 states the the wilderness system was established, "to assure that an increasing population, accompanied by expanding settlement and growing mechanization does not occupy and modify all areas within the United States."

Impacts on Recreation

Non-designation of the area would, temporarily at least, simply mean a continuation of the situation that exists at present. There would be no immediate, profound changes in recreation use within or immediately around the WSA if it is not designated wilderness. Some increased use can be anticipated if a major mineral development occurs within this area that would not occur with wilderness designation, resulting in a local population increase. This by increased accessibility due to potential road construction.

Primitive types of recreation use such as backpacking and horseback riding may substantially decline within the WSA due to mining activities. This in turn could adversely affect the wilderness experience within the contiguous wilderness area as this WSA serves as access into the wilderness area.

Under this alternative wilderness-related recreation use is estimated at 2,130 RVDs per year (1980) and is expected to increase to 3,130 RVDs in the short term (1985). No long term (2000) estimate of RVDs is possible under this alternative, because it is impossible to project the level of commercial development (see Appendices 4.1, 4.2).

Economic Impacts

Except for impacts to Employment, all impacts under this alternative would be as discussed in the Redcloud Peak No-Wilderness Alternative.

Employment

Employment associated with mineral development could benefit under this alternative. As the mineral resources are now only being employed, it is impossible to forecast any amount of employment that could result from mineral development.

CONFLICT RESOLUTION ALTERNATIVE

Impacts to the resources and land uses have been discussed previously, and would be essentially the same under this alternative as those impacts discussed under the All-Wilderness Alternative for American Flats. Impacts which would change are as follows:

Impacts on Visual Resource

Under this alternative 1,505 acres of the WSA would be given a VRM Class I rating. While the designated area would be protected from severe visual disturbance, development of adjacent areas within the WSA could adversely affect the visual resource within the designated area.

Impacts on Wilderness Resource

This alternative is primarily an adjustment of the WSA boundaries to provide for increased manageability of the wilderness resource values consistent with the existing wilderness area and excluding areas with high mineral potential.

The impacts described under the All-Wilderness alternative would essentially be the same for those lands under this alternative recommended for wilderness designation. Those lands excluded from designation under this alternative would be impacted as described under the No-Wilderness Alternative.

Impacts on Recreation

Under this alternative wilderness-related recreation use in the WSA is estimated at 2,130 RVDs per year (1980) and 3,100 RVDs in the short term (1985). In the long term commercial development could reduce the growth level to 8,900 RVDs in 2000, as opposed to 9,900 RVDs in the All-Wilderness level (see Appendix 4.1).

Economic Impacts

Value of Commodities: This alternative excludes the areas with high and moderate potential for mineral values from designation. Thus, it will have a minimum impact upon mineral values.

Employment: This alternative would not adversely impact employment from mineral development and would benefit employment due to tourism.

Income by Industry: This alternative would not hinder the possible development and subsequent income of the mineral industry, and would benefit the tourist industry of Hinsdale County.

Value of Recreation: Approximately 90 percent of the current recreational usage of the WSA occurs within the area designated under this alternative. Thus, the value of recreation will increase in the short term as discussed in the All-Wilderness Alternative. But if mining development occurs in the non-designated part of the WSA, 10 percent of the long term value could be lost, giving a long term (2000) recreation value of $305,400 (see Appendix 4.4).

Property Taxes: As the designated area under this alternative roughly follows the Hinsdale-Ouray County line, there would be no negative impact to Hinsdale County. Ouray County, however, could lose approximately $14 per year in tax revenues.

BILL HARE GULCH

ALL-WILDERNESS ALTERNATIVE

Impacts on Soils, Vegetation, and Wildlife resources due to recreation use would be essentially the same under this alternative as in the Redcloud Peak All-Wilderness Alternative, but to a lesser degree. There would be no identified impacts on Cultural Resources, Water or Lands and Access.

Impacts on Visual Resource

Under this alternative the 370 acres of wilderness scenery would receive a VRM Class I designation protecting it from all but minor visual modifications. A potential for minor landform and vegetative modifications exists due to the possibility of trail head and route development into the Big Blue Wilderness Area to the west.

Impacts on Wilderness Resource

The designation of the WSA as wilderness would have minimal beneficial impacts. Off-road vehicle usage would be prohibited although presently this is not a serious problem. Designation of this WSA could enhance the wilderness values and manageability of the contiguous Big Blue Wilderness Area.

Impacts on Recreation

Under this alternative wilderness-related recreation use is estimated at 170 RVDs per year (1980) and is expected to increase to 260 RVDs in the short term (1985) and 810 RVDs in the long term (2000) (see Appendix 4.1).

Impacts on Minerals

This alternative would withdraw 370 acres from mineral entry. This could possibly preclude a future discovery of a mineral not known to occur at this location at the present time; however, mineral potential of this area is considered to be low.

Social Impacts

The impacts to the social well-being of Lake City or Hinsdale County will be insignificant as a result of designation or non-designation of this unit. It is contiguous to the Big Blue Wilderness Area. A number of people are likely to travel through the area to the Big Blue Wilderness; however, the social impacts of this units inclusion in that wilderness area are small.

The major impact would be to public attitudes. Sentiment in the region tends to be against any more wilderness designation of land. Concern is not with designation of this particular unit but rather a fear of being surrounded by wilderness.

Economic Impacts

As there are no known mineral or other commodities, and very little potential for any to be developed, there are limited estimated economic impacts under any alternative.

Recreation Value

The value of recreation of the Bill Hare Gulch WSA is currently $6,000 (1980) and expected to increase to $8,800 in 1985 and $27,800 in 2000 (see Appendix 4.4).

NO-WILDERNESS ALTERNATIVE

Impacts on soils, Water, and Vegetation would be essentially the same under this alternative as in the Redcloud No-Wilderness Alternative, but to a lesser degree. There would be no identified impacts on Wildlife, Lands and Access, Social or Economic.

Impacts on Visual Resource

The entire area would remain under VRM Class II objectives. However, due to the absence of mineral potential, forestry products and grazing allotments, the scenic quality of the area would remain relatively unchanged.

Impacts on Wilderness Resource

The non-designation of the WSA as wilderness would create manageability problems for the wilderness values of the contiguous U.S. Forest Service wilderness area.

Impacts on Cultural Resource

Motorized access into the area could lead to increased deterioration of historic sites through vandalism.

Impacts on Recreation

Non-designation of the area would, temporarily at least, simply mean a continuation of the situation that exists at present. There would be no immediate, profound changes in recreation use within or immediately around the WSA if it is not designated wilderness.

Under this alternative wilderness-related recreation use is estimated at 170 RVDs per year (1980) and is expected to increase to 260 RVDS in the short term (1985). No long term estimate of RVDs is possible under this alternative, because it is impossible to estimate the future level of commercial development (see Appendices 4.1, 4.2).

Impacts on Minerals

The area would remain open to mineral entry subject to applicable regulation. Although the area is not known to have mineral potential a future discovery might result for some commodity not currently known.

Social and Economic Impacts

Refer to: Impacts to Social Resources, Bill Hare, All-Wilderness Alternative.

WILDERNESS MANAGEABILITY ALTERNATIVE

Impacts on Soils, Water, Vegetation, Wildlife, Cultural, Lands and Access, Social and Economic resources would essentially be the same under this alternative as in the All-Wilderness Alternative.

Impacts on Visual Resource

Under this alternative 325 acres of wilderness scenery would be changed to VRM Class I objectives. Visual impacts under this alternative would be essentially the same as under the All-Wilderness Alternative, with slightly greater potential for modifications along the eastern slopes and valleys.

Impacts on Minerals

This alternative would withdraw 480 acres from mineral entry. Impacts are essentially the same as those described under the All-Wilderness Alternative.

Impacts on Recreation

Under this alternative wilderness-related recreation use is estimated at 170 RVDs per year (1980) and 260 RVDs in 1985 and 810 RVDs in the long term (2000) (see Appendices 4.1, 4.2).

Economic Impacts

Refer to the All-Wilderness Alternative.

LARSON CREEK

ALL-WILDERNESS ALTERNATIVE

Impacts on Vegetation, Soils and Wildlife resources due to recreation use would be essentially the same under this alternative as in the Redcloud Peak All-Wilderness Alternative, but to a lesser degree. There would be no identified impacts on Cultural Resources, Water, or Access and Lands.

Impacts on Visual Resource

Under this alternative the entire 900 acres within the WSA would be given a VRM Class I rating. Potential visual impacts would be similar to those in Bill Hare Gulch under the All-Wilderness Alternative.

Impacts on Wilderness Resource

The designation of the WSA as wilderness would have minimal beneficial impacts. Off-road vehicle usage would be prohibited although presently this is not a serious problem. Designation of this WSA could enhance the wilderness values and manageability of the contiguous wilderness area.

Impacts on Recreation

Under this alternative wilderness-related recreation use is estimated at 190 RVDs per year (1980) and is expected to increase to 280 RVDs in the short term (1985) and 890 RVDs in the long term (2000) (see Appendix 4.1).

Impacts on Minerals

This alternative would withdraw 900 acres from mineral entry. This could possibly preclude a future discovery of a mineral not known to occur at this location at the present time; however, mineral potential of this area is considered to be low.

Social Impacts

The impacts to the social well-being of Lake City or Hinsdale County will be insignificant as a result of designation or non-designation of this unit. It is contiguous to the Big Blue Wilderness Area. A number of people are likely to travel through the area to the Big Blue Wilderness; however, the social impacts of this units inclusion in that wilderness area are small.

The major impact would be to public attitudes. Sentiment in the region tends to be against any more wilderness designation of land. Concern is not with designation of this particular unit but rather a fear of being surrounded by wilderness.

Economic Impacts

As there are no existing mineral or other commodities, and very little potential for any to be developed; little economic impact is expected under any alternative.

Value of Recreation

Under the All-Wilderness Alternative, recreation value of the Larson Creek WSA is expected to rise from the current 1980 value of $6,800 to $9,900 in 1985 and to a value of $31,500 in 2000 (see Appendix 4.2).

NO-WILDERNESS ALTERNATIVE

Impacts on Soils, Water, and Vegetation would be essentially the same under this alternative as in the Redcloud No-Wilderness Alternative, but to a lesser degree. There would be no identified impacts on Wildlife, Land and Access, Social or Economic.

Impacts on Visual Resource

The existing scenic quality would remain essentially unchanged due to low potential of mineral, forestry and grazing activity. A potential for recreation related modifications exists due to the possibility of access development into the Big Blue Wilderness Area. No other impacts on visual resource management is expected under this alternative.

Impacts on Wilderness Resource

The non-designation of the WSA as wilderness would create manageability problems for the wilderness values of the contiguous U.S. Forest Service wilderness area.

Impacts on Cultural Resource

Motorized access into the area could lead to increased deterioration of historic sites through vandalism.

Impacts on Recreation

Non-designation of the area would, temporarily at least, simply mean a continuation of the situation that exists at present. There would be no immediate profound changes in recreation use within or immediately around the WSA if it is not designated wilderness.

Under this alternative, wilderness-related recreation use is estimated at 190 RVDs per year (1980) and is expected to increase to 280 RVDs in 1985. No long term estimate of RVDs is possible under this alternative, because it is impossible to estimate the level of future commercial development (see Appendices 4.1, 4.2).

Impacts on Minerals

The area would remain open to mineral entry subject to applicable regulation. Although the area is not known to have mineral potential a future discovery might result for some commodity not currently known.

WILDERNESS MANAGEABILITY ALTERNATIVE

Impacts on all resources would essentially be the same under this alternative as in the All-Wilderness Alternative except as listed below.

Impacts on Visual Resource

Under this alternative 495 acres of wilderness scenery would be changed to VRM Class I. Potential for visual modifications would remain low, and limited to primitive recreation and access development into the Big Blue Wilderness Area.

Impacts on Minerals

This alternative would withdraw 480 acres from mineral entry. Impacts are essentially the same as those described under the All-Wilderness Alternative.

Impacts on Recreation

Under this alternative wilderness-related recreation use is estimated at 190 RVDs per year (1980) and 280 RVDs in 1985. In the long term (2000) development could reduce visitor use to 270 RVDs as opposed to the 890 All-Wilderness level (see Appendiices 4.1, 4.2).

Economic Impacts

Refer to the All-Wilderness Alternative.

WEMINUCHE CONTIGUOUS

ALL-WILDERNESS ALTERNATIVE

Impacts on Soils, Water, Vegetation, Cultural and Wildlife are essentially the same as those described in the Redcloud Peak All-Wilderness Alternative, but to a lesser degree.

Impacts on Visual Resource

Under this alternative the entire 1,980 acres within the WSA would be given a Class I rating. The possibility of major visual modifications remains due to the high potential for mineral development. Additionally, visual impacts from other activities remain essentially the same as those discussed under the Redcloud Peak All-Wilderness Alternative.

Impacts on Wilderness Resource

The impacts on wilderness would be essentially the same as those described in the Handies Peak All-Wilderness Alternative.

Impacts on Recreation

Under this alternative wilderness-related recreation use is estimated at 490 RVDs per year (1980) and is expected to increase to 720 RVDs in the short term (1985) and 2,280 RVDs in the long term (2000) (see Appendix 4.1).

Impacts on Lands and Access

This alternative includes about 600 acres of state-owned minerals estate and about five acres of private land. Additional impacts would be essentially the same as described in the Redcloud Peak All-Wilderness Alternative.

Impacts on Minerals

Approximately 1,300 acres, on which there are about 18 mining claims, would be withdrawn from mineral entry. Development of the potential mineral deposits would be precluded by this alternative.

Social Impacts

Designation of this unit as wilderness would have little impact to the social well-being of San Juan County or the communities nearby. Its proximity to the Weminuche Wilderness Area precludes any such significant impact. The region already accommodates a large number of tourists, designation of this unit will not greatly increase that number.

This WSA is presently receiving wilderness type uses. Although there is some mineral potential in the area, local attitudes are for designation of the area as wilderness.

Economic Impacts

While the Weminuche Contiguous WSA has no current minerals production, the identified potential is high. Impacts to Value of Commodities, Employment, Income by Industry would be similar to those discussed for the Handies Peak All-Wilderness Alternative.

Value of Recreation: The present value of recreation within the WSA is approximately $17,300 per year. This is based on a recreational use of an estimated 490 RVDs per year. Since this WSA is contiguous to an existing wilderness area, the publicity associated with designation should not increase present usage more than the national average of an 8 percent increase per year. This would produce an estimated value in the short term (1985) of $25,500 per year and in the long term (2000) of $71,000 per year (see Appendix 4.4).

Property Taxes: With designation, some or all of the mining claims and patented lands within the WSA would eventually be removed from the property tax rolls. This would mean a loss to San Juan County of up to $164 per year in tax revenues.

NO-WILDERNESS ALTERNATIVE

Impacts on Soils, Water, Vegetation, Aquatic Wildlife, Cultural, Lands and Access and Minerals resources would be essentially the same as those addressed in Redcloud Peak No-Wilderness Alternative, but to a lesser degree.

Impacts on Visual Resource

Under this alternative the entire area would remain under VRM Class II, and be subject to potential visual modification. These would be essentially the same as discussed under the Redcloud Peak No-Wilderness Alternative.

Impacts on Terrestrial Wildlife

Disruption of the southern portion of this area by mineral development could affect the winter range of mountain goats, thus resulting in a reduction of herd size. The magnitude of this reduction will be directly dependent upon the magnitude of future activities. Some summer range for elk and deer may be disrupted but should not result in any decrease in herd size.

Impacts on Wilderness Resource

The non-designation of the WSA would have a short and long term adverse impact on the wilderness resource values present within the area. With non-designation, mining exploration and development, with associated road construction, timber removal and surface disturbance could impair the naturalness of the area.

In the short term, primitive recreation use, wildlife distribution and propagation, watershed protection and enhancement, and soil and vegetative resources would be adversely impacted. In the long term, the wilderness resource values and other uses or resources associated with wilderness would be lost forever in their natural state. Ecological processes could be significantly altered which could in turn adversely affect resources and lands adjacent to the WSA. Of critical concern is that non-designation of this WSA, or portion therein as wilderness, could severely hamper or even deteriorate the wilderness resource and wilderness management of the contiguous U.S. Forest Service Wilderness Area.

Mineral development has the potential of significantly altering the visual character of these mountainous and ecologically fragile wildlands.

The significance of the area for educational and scientific study as an untrammeled, natural ecosystem would be foregone. Presently the area is advantageous to both biological and geological study. The area is in close proximity to Western State College in Gunnison, the Gothic Natural Resource Area north of Crested Butte, and Fort Lewis College in Durango.

Outstanding opportunities for solitude would be eliminated thus resulting in more use pressure on the existing wilderness areas in the region. Two of the highest human-oriented values of the wilderness resource, and intangibles, are the psychological and spiritual aspects of the wildland resource as they relate to feelings of solitude and intimate space.

At a national level, non-designation of this area as wilderness would add to the continuing loss of America's heritage, the western frontier. Specifically, the Wilderness Act of 1964 states that the wilderness system was established, "to assure that an increasing population, accompanied by expanding settlement and growing mechanization does not occupy and modify all areas within the United States."

Impacts on Recreation

Non-designation of the area would, temporarily at least, simply mean a continuation of the situation that exists at present. There would be no immediate, profound changes in recreation use within or immediately around the WSA if it is not designated wilderness. Some increased use can be anticipated if a major mineral development occurs within this area that would not occur with wilderness designation, resulting in a local population increase. This by increased accessibility due to potential road construction.

Primitive types of recreation use such as backpacking and horseback riding may substantially decline within the WSA due to mining activities. This in turn could adversely affect the wilderness experience within the contiguous wilderness area as this WSA serves as access into the wilderness area.

Under this alternative wilderness-related recreation use is estimated at 490 RVDs per year (1980) and is expected to increase to 720 RVDs in the short term (1985). No long term estimate of RVDs is possible under this alternative, because it is impossible to estimate the level of future commercial development (see Appeneices 4.1, 4.2).

Social Impacts

Non-designation of this unit would have no different impact on the social well-being of the region than that of designation. Impact on social attitudes would be somewhat negative because residents have come out in favor of designation.

Economic Impacts

Except for impacts to Employment, and Recreation all impacts under this alternative would be as discussed in the Redcloud Peak No-Wilderness Alternative.

Employment: Employment associated with mineral development could benefit under this alternative. As the mineral resources are now only being employed, it is impossible to forecast any amount of employment that could result from mineral development.

Without designation, tourist and recreation generated employment would probably continue as at present, or decline if extensive mineral development occurs.

Value of Recreation: The value of recreation for the No-Wilderness Alternative is estimated to be the same as the All-Wilderness Alternative $17,300 for 1980 and $25,500 for 1985. Undetermined mineral development makes estimation of a long term (2000) value of recreation impossible.

WILDERNESS MANAGEABILITY ALTERNATIVE

Impacts on Soils, Water, Vegetation, Wildlife, Cultural, Lands and Access, under this alternative would essentially have the same impacts as discussed under the All-Widerness Alternative. Those lands recommended for non-wilderness designation would essentially have the same impacts as described under the No-Wilderness Alternative.

Impacts on Visual Resource

Under this alternative 375 acres would be recommended for a VRM Class I rating. Visual impacts in the designated area would be essentially the same as discussed under the All-Wilderness Alternative with the remainder of the WSA subject to those impacts discussed under the No-Wilderness Alternative.

Impacts on Wilderness Resource

This alternative is primarily an adjustment of the WSA boundaries to provide for increased manageability of the wilderness resource values congruent with the existing Weminuche Wilderness Area.

The impacts described under the All-Wilderness Alternative would essentially be the same for those lands under this alternative recommened for wilderness designation. For those lands included within this alternative and recommended for non-wilderness designation, the impacts would essentially be the same as described in the No-Wilderness Alternative.

Impacts on Recreation

Under this alternative wilderness-related recreation use is estimated at 490 RVDs per year (1980) and 720 RVDs in the 1985. In the long term (2000) development could reduce visitor use to 1,940 RVDs as opposed to the 2,280 RVDs All-Wilderness level (see Appendices 4.1, 4.2).

Impacts on Lands and Access

This alternative includes about five acres of private land and about 160 acres of state-owned mineral estate. Additional impacts would be essentially the same as described in the Redcloud Peak All-Wilderness Alternative.

Social Impacts

For those lands recommended for wilderness designation, the impacts would be the same as discussed under the All-Wilderness

Alternative. For those lands recommended for non-designation as wilderness the impacts would be the same as discussed under the No-Wilderness Alternative.

Economic Impacts

This alternative excludes most of the area with high potential mineral values but still designates some areas of mineral interest. The area designated would have the impacts discussed in the All-Wilderness Alternative and that area not designated would be affected as discussed in the No-Wilderness Alternative.

Value of Recreation: The area designated by this alternative receives 85 percent of the current recreational usage. The short term impact to recreational values would be the same as the All-Wilderness Alternative, while in the long term, up to 15 percent of the value could be lost if mineral development occurs. This would reduce the value of recreation in the year 2000 from $71,000 in the All-Wilderness Alternative level to $60,300 in the Wilderness Manageability level.

Property Taxes: With designation, some or all of the mining claims and patented lands within the WSA would eventually be removed from the property tax rolls. This would mean a loss to San Juan County of up to 28 per year in tax revenues.

WHITEHEAD GULCH

ALL-WILDERNESS ALTERNATIVE

Impacts on Soils, Water, Vegetation, Cultural, and Wildlife are essentially the same as those described in Redcloud Peak All-Wilderness Alternative, but to a lesser degree.

Impacts on Visual Resource

Under this alternative 6,200 acres would receive VRM Class I rating. Additional visual impacts would remain essentially the same as discussed under the Redcloud Peak All-Wilderness Alternative.

Impacts on Wilderness Resource

Impacts on wilderness would essentially be the same as described in the Handies Peak All-Wilderness Alternative.

Impacts on Recreation

Under this alternative wilderness-related recreation use is estimated at 2,880 RVDs per year (1980) and is expected to increase to 4,230 RVDs in the short term (1985) and 13,400 RVDs in the long term (2000) (see Appendix 4.1).

Impacts on Lands and Access

This alternative includes 640 acres of state-owned mineral estate. Additional impacts would be essentially the same as described in the Redcloud Peak All-Wilderness Alternative.

Impacts on Minerals

Approximately 5,600 acres would be withdrawn from mineral entry. Identified potential for base and precious metals and uranium would be foregone.

Social Impacts

Designation of this unit as wilderness would have little impact to the social well-being of San Juan County or the communities nearby. Its proximity to the Weminuche Wilderness Area precludes any such significant impact. The region already accommodates a large number of tourists, designation of this unit will not greatly increase that number.

This WSA is presently receiving wilderness type uses. Although there is some mineral potential in the area, local attitudes are for designation of the area as wilderness.

Economic Impacts

Value of Commodities: Under this alternative, the mineral values within the WSA would be foregone unless proven by December 31, 1983.

While there are no estimates as to what these values may be, areas within the WSA are considered to have high or moderate potential for a variety of precious and base metals.

Employment: While current employment within the WSA due to minerals is limited to minor amounts of exploration, an unknown amount of potential exists for future mining generated employment. This could be reduced or foregone completely under this alternative.

Employment due to tourism could be benefited by this alternative.

Income by Industry: An unknown potential for mineral development would be foregone by this alterntive, but the tourist industry could benefit by it.

Value of Recreation: The present value of recreation within the WSA is approximately $98,600 per year. This is based on a recreational use of an estimated 2,880 RVDs per year. Since this WSA is contiguous to an existing wilderness area, the publicity associated with designation should not increase present useage more than the national average of an 8 percent increase per year. This would produce an estimated value in the short term (1985) of $144,900 per year and in the long term (2000) of $438,900 per year (see Appendix 4.4).

Property Taxes: With designation, some or all of the mining claims and patented lands within the WSA would eventually be removed from the property tax rolls. This would mean a loss to San Juan County of up to $560 per year in tax revenues.

NO-WILDERNESS ALTERNATIVE

Impacts on Soils, Water, Vegetation, Aquatic Wildlife, Cultural, Lands and Access and Minerals would be essentially the same as those addressed in the No-Wilderness Alternative for Redcloud Peak, but to a lesser degree.

Impacts on Visual Resource

Under this alternative the entire area would remain under VRM Class II rating. Substantial visual degradation is possible primarily due to mineral activity. Impact from other activities would be generally the same as discussed under Red Cloud's Non-Wilderness Alternative.

Impacts on Terrestrial Wildlife

Disruption of the eastern portion of this area by mineral development could affect the winter range of mountain goats, thus resulting in a reduction of herd size. The magnitude of this reduction will be directly dependent upon the magnitude of future activities. Some summer range for elk and deer may be disrupted but should not result in any decrease in herd size.

Impacts on Wilderness Resource

The non-designation of the WSA would have a short and long term adverse impact on the wilderness resource values present within the area. With non-designation, mining exploration and development, with associated road construction, timber removal and surface disturbance could impair the naturalness of the area.

In the short term, primitive recreation use, wildlife distribution and propagation, watershed protection and enhancement, and soil and vegetative resources would be adversely impacted. In the long term, the wilderness resource values and other uses or resources associated with wilderness would be lost forever in their natural state. Ecological processes could be significantly altered which could in turn adversely affect resources and lands adjacent to the WSA. Of critical concern is that non-designation of this WSA, or portion therein as wilderness, could severely hamper or even deteriorate the wilderness resource and wilderness management of the contiguous U.S. Forest Service Wilderness Area.

Mineral development has the potential of significantly altering the visual character of these mountainous and ecologically fragile wildlands.

The significance of the area for educational and scientific study as an untrammeled, natural ecosystem would be foregone. Presently the area is advantageous to both biological and geological study. The area is in close proximity to Western State College in Gunnison, the Gothic Natural Resource Area north of Crested Butte, and Fort Lewis College in Durango.

Outstanding opportunities for solitude would be eliminated thus resulting in more use pressure on the existing wilderness areas in the region. Two of the highest human-oriented values of the wilderness resource, and intangibles, are the psychological and spiritual aspects of the wildland resource as they relate to feelings of solitude and intimate space.

At a national level, non-designation of this area as wilderness would add to the continuing loss of America's heritage, the western frontier. Specifically, the Wilderness Act of 1964 states the the wilderness system was established, "to assure that an increasing population, accompanied by expanding settlement and growing mechanization does not occupy and modify all areas within the United States."

Impacts on Recreation

Non-designation of the area would, temporarily at least, simply mean a continuation of the situation that exists at present. There would no immediate, profound changes in recreation use within or immediately around the WSA if it is not designated wilderness. Some increased use can be anticipated if a major mineral development occurs within this area that would not occur with wilderness designation, resulting in a local population increase. This by increased accessibility due to potential road construction.

Primitive types of recreation use such as backpacking and horseback riding may substantially decline within the WSA due to mining activities. This in turn could adversely affect the wilderness experience within the contiguous wilderness area as this WSA serves as access into the wilderness area.

Under this alternative wilderness-related recreation use is estimated at 2,880 RVDs per year (1980) and is expected to increase to 4,230 RVDs in the short term (1985). No long term estimate of RVDs is possible under this alternative, because it is impossible to determine the future level of commercial development (see Appendices 4.1, 4.2).

Social Impacts

Non-designation of this unit would have no different impact on the social well-being of the region than that of designation. Impact on social attitudes would be somewhat negative because residents have come out in favor of designation.

Economic Impacts

Except for impacts to Employment and Recreation, all impacts under this alternative would be as discussed in the Redcloud Peak No-Wilderness Alterntive.

Employment: Employment associated with mineral development could benefit under this alternative. As the mineral resources are now only being explored, it is impossible to forecast any amount of employment that could result from mineral development.

Without designation, tourist and recreation generated employment would probably decline if extensive mineral development occurs.

Recreation Values: Recreation value under the No-Wilderness Alternative will be the same as the All-Wilderness Alternative for 1980 and 1985. No recreation value can be determined for 2000 because it is impossible to determine the future level of commercial development.

WILDERNESS MANAGEABILITY ALTERNATIVE

Impacts on Soils, Water, Vegetation, Cultural, Land and Access, and Wildlife would be essentially the same as those described in the All-Wilderness Alternative.

Impacts on Visual Resource

Under this alternative 4,115 acres would be given a VRM Class I rating. The potential for mining related visual impacts and impacts from other activities would largely remain the same as discussed under the All-Wilderness Alternative.

Impacts on Wilderness Resource

Impacts would be the same as those described in Handies Peak All-Wilderness Alternative.

The impacts described under the All-Wilderness Alternative would essentially be the same for those lands under this alternative recommended for wilderness designation. For those lands included within this alternative and recommended for non-wilderness designation, the impacts would essentially be the same as described in the No-Wilderness Alternative.

Impacts on Recreation

Under this alternative wilderness-related recreation use is estimated at 2,880 RVDs in 1980 and 4,230 RVDs in 1985. In the long term (2000) development could reduce visitor use to 12,710 RVDs as opposed to the 13,400 All-Wilderness level (see Appendix 4.1).

Impacts on Minerals

This alternative would withdraw about 3,500 acres from mineral entry. This withdrawn area would include the area of uranium potential in the Elk Creek vicinity, but would allow the majority of the high-potential base metal and precious metal mineralization to remain open to entry.

Social Impacts

This alternative excludes most of the area with high potential mineral values but still designates some areas of mineral interest. The area designated would have the impacts discussed in the All-Wilderness Alternative and that area not designated would be affected as discussed in the No-Wilderness Alternative.

Economic Impacts

Under this alternative some of the areas with moderate potential for mineral value would not be within the designated area. But the area with high potenatial would still be within the designated part of the WSA. Thus the impacts to Value of Commodities, Employment, and Income by Industry would be essentially the same as discussed in the All-Wilderness Alternative.

Value of Recreation: The area not designated by this alternative receives very little of the recreational usage of the WSA. The short term effects should be the same as discussed in the All-Wilderness Alternative. The long term values would be approximately 95 percent of those discussed in the All-Wilderness Alternative and thus $416,900 in the year 2000 (see Appendix 4.4).

Property Taxes: With designation, some or all of the mining claims and patented lands within the WSA would eventually be removed from the property tax rolls. This would mean a loss to San Juan County of up to $480 per year in tax revenues.

CONFLICT RESOLUTION ALTERNATIVE

Impacts on Soils, Water, Vegetation, Wildlife, Cultural, and Lands and Access under this alternative would essentially have the same impacts as delineated under the All-Wilderness Alternative on those lands recommended for wilderness. Those lands recommended for non-wilderness designation would essentially have the same impacts as delineated under the No-Wilderness Alternative.

Impacts on Visual Resource

Under this alternative 1,770 acres would be rated a VRM Class I rating. Impacts to the designated area would remain as discussed in the All-Wilderness Alternative. However, the potential for significant visual modifications in the non-designated portion of the WSA may adversely affect the scenic character of the area recommended for wilderness designation.

Impacts on Wilderness Resource

The impacts described under the Handies All-Wilderness Alternative would essentially be the same for those lands under this alternative recommended for wilderness designation. For those lands within this alternative and recommended for non-wilderness designation, the impacts would be essentially the same as described in the No-Wilderness Alternative.

This alternative could have serious adverse impacts on the contiguous wilderness values of the Weminuche Wilderness Area. Non-wilderness activities, such as mining or associated activities, could conflict with Forest Service management of the wilderness lands and primary access into the Weminuche Wilderness Area.

Impacts on Recreation

Under this alternative wilderness-related recreation use is estimated at 2,880 RVDs in year 1980 and 4,230 RVDs in 1985. In the long term (2000) development could reduce visitor use to 1,340 RVDs as opposed to the 13,400 All-Wilderness level (see Appendices 4.1, 4.2).

Impacts to Social Resource

For those lands recommended for wilderness designation, the impacts would be the same as discussed under the All-Wilderness Alternative. For those lands recommended for non-designation as wilderness the impacts would be the same as discussed under the No-Wilderness Alternative.

Economic Impacts

Under this alternative, the area with high mineral potential and approximately half of the area with moderate mineral potential would not be designated. Impacts to Value of Commodities, Employment, and Income by Industry would be thus essentially be the same as discussed under the No-Wilderness Alternative.

Value of Recreation: The area with the vast majority of the recreational usage within the WSA would not be designated under this alternative. Short term effects would be the same as discussed in the All-Wilderness Alternative. In the long term up to 90 percent of the recreational value could be lost if extensive mineral development occurs, giving a recreation value of $43,900 as opposed to the All-Wilderness Alternative value of $438,900.

Property Taxes: With designation, some or all of the mining claims and patented lands within the WSA would eventually be removed from the property tax rolls. This would mean a loss to San Juan County of up to $240 per year in tax revenues.

NEEDLE CREEK

ALL-WILDERNESS ALTERNATIVE

Impacts on Soils, Water, Vegetation, Aquatic Wildlife, and Cultural would be essentially the same as those addressed in the All-Wilderness Alternative for Redcloud Peak, but to a lesser degree.

Impacts on Visual Resource

Under this alternative the entire 4,540 acres of scenery would be given a Class I VRM rating. A significant potential for mining related modifications remains due to the existing mineral resources, exploration and development rights.

Other potential visual impacts remain as discussed in the Redcloud Peak All-Wilderness Alternative.

Impacts on Terrestrial Wildlife

No impacts are expected to occur.

Impacts on Wilderness Resource

Impacts would be the same as those described in Handies Peak All-Wilderness Alternative.

Impacts on Land and Access

This alternative includes 80 acres of private land. Additional impacts would be the same as described in the Redcloud Peak All-Wilderness Alternative.

Impacts on Recreation

Under this alternative wilderness-related recreation use is estimated at 3,140 RVDs in 1980 and 4,620 RVDs in 1985 and 14,640 RVDs in 2000 (see Appendix 4.1).

Impacts on Minerals

Approximately 4,600 acres would be withdrawn from mineral entry. Approximately 143 mining claims are located in this area. Possible development of the identified mineral potential would be precluded.

Social Impacts

Designation of this unit as wilderness would have little impact to the social well-being of San Juan County or the communities nearby. Its proximity to the Weminuche Wilderness Area precludes any such significant impact. The region already accommodates a large number of tourists, designation of this unit will not greatly increase that number.

This WSA is presently receiving wilderness type uses. Although there is some mineral potential in the area, local attitudes are for designation of the area as wilderness.

Economic Impacts

The Needle Creek WSA is considered to have a moderate potential for mineral discovery and development. Thus, the impacts to Value of Commodities, Employment, and Income by Industry under this alternative would substantially be the same as discussed in the Handies Peak All-Wilderness Alternative.

Value to Recreation: The present value of recreation within the WSA is approximately $106,300 per year. This is based on a recreational use of an estimated 3,140 RVDs per year. Since this WSA is contiguous to an existing wilderness area, the publicity associated with designation should not increase present usage more than the national average of 8 percent increase per year. This would produce an estimated value in 1985 of $156,300 and $495,600 in 2000 (see Appendix 4.4).

Property Taxes: With designation, some or all of the mining claims and patented lands within the WSA would eventually be removed from the property tax rolls. This would mean a loss to San Juan County of up to $607 and to La Plata County up to $626 per year in tax revenues.

NO-WILDERNESS ALTERNATIVE

Impacts on Soils, Water, Vegetation, Aquatic Wildlife, Cultural, Lands and Access, and Minerals would be essentially the same as those addressed in the No-Wilderness Alternative for Redcloud Peak, but to a lesser degree.

Impacts on Visual Resource

Under this alternative there would be no change in visual resource management of the area. A significant potential for visual degradation due to mineral exploration and development could result from non-designation diminishing the scenic quality of the WSA and adjacent wilderness area.

Impacts on Terrestrial Wildlife

No impacts are expected to occur.

Impacts on Wilderness Resource

The non-designation of the WSA would have a short and long term adverse impact on the wilderness resource values present within the area. With non-designation, mining exploration and development, with associated road construction, timber removal and surface disturbance could impair the naturalness of the area.

In the short term, primitive recreation use, wildlife distribution and propagation, watershed protection and enhancement, and soil and vegetative resources would be adversely impacted. In the long term, the wilderness resource values and other uses or resources associated with wilderness would be lost forever in their natural state. Ecological processes could be significantly altered which could in turn adversely affect resources and lands adjacent to the WSA. Of critical concern is that non-designation of this WSA, or portion therein as wilderness, could severely hamper or even deteriorate the wilderness resource and wilderness management of the contiguous U.S. Forest Service Wilderness Area.

Mineral development has the potential of significantly altering the visual character of these mountainous and ecologically fragile wildlands.

The significance of the area for educational and scientific study as an untrammeled, natural ecosystem would be foregone. Presently the area is advantageous to both biological and geological study. The area is in close proximity to Western State College in Gunnison, the Gothic Natural Resource Area north of Crested Butte, and Fort Lewis College in Durango.

Outstanding opportunities for solitude would be eliminated thus resulting in more use pressure on the existing wilderness areas in the region. Two of the highest human-oriented values of the wilderness resource, and intangibles, are the psychological and spiritual aspects of the wildland resource as they relate to feelings of solitude and intimate space.

At a national level, non-designation of this area as wilderness would add to the continuing loss of America's heritage, the western frontier. Specifically, the Wilderness Act of 1964 states that the wilderness system was established, "to assure that an increasing population, accompanied by expanding settlement and growing mechanization does not occupy and modify all areas within the United States."

Impacts on Recreation

Non-designation of the area would, temporarily at least, simply mean a continuation of the situation that exists at present. There would be no immediate, profound changes in recreation use within or immediately around Needle Creek WSA if it is not designated wilderness. Some increased use can be anticipated if a major mineral development occurs within this area that would not occur with wilderness designation, resulting in a local population increase. This by increased accessibility due to potential road construction.

Primitive types of recreational use such as backpacking and horseback riding may substantially decline within the WSA due to mining activities. This in turn could adversely affect the wilderness experience within the contiguous Weminuche Wilderness areas as this area currently serves as access into the wilderness area.

Under this alternative wilderness-related recreation use is estimated at 3,140 RVDs per year (1980) and is expected to increase to 4,620 RVDs in the short term (1985). No long term (2000) estimate of RVDs is possible under this alternative because it is impossible to determine the future level of commercial development (see Appendices 4.1, 4.2).

Social Impacts

Non-designation of this unit would have no different impact on the social well-being of the region than that of designation. Impact on social attitudes would be somewhat negative because residents have come out in favor of designation.

Economic Impacts

Except for the discussion on alunite, all impacts discussed in the Redcloud Peak No-Wilderness Alternative would equally pertain to Needle Creek. Impacted counties would be San Juan and La Plata.

Recreation Value: The value of recreation for this alternative would be the same as the All-Wilderness Alternative for 1980 and 1985. Determination of long term value (2000) is not possible because it is impossible to determine the future level of commercial development.

WILDERNESS MANAGEABILITY ALTERNATIVE

Impacts on Soils, Water, Vegetation, Wildlife, Cultural, Lands and Access, and Wildlife would be the same as those discussed in the All-Wilderness Alternative.

Impacts on Visual Resource

Under this alternative 4,160 acres would be placed in a VRM Class I rating. Potential visual impacts under this alternative would remain as discussed under the All-Wilderness Alternative for this WSA.

Impacts on Wilderness Resource

This alternative is primarily an adjustment of the WSA boundaries to provide for increased manageability of the wilderness resource values congruent with the existing Weminuche Wilderness area.

The impacts described under the Handies Peak All-Wilderness Alternative would essentially be the same for this alternative.

Impacts on Recreation

Under this alternative wilderness-related recreation use is estimated at 3,140 RVDs in 1980 and is expected to increase to 4,620 RVDs in 1985 and 14,640 RVDs in 2000 (see Appendices 4.1, 4.2).

Impacts on Minerals

Approximately 4,200 acres on which there are 143 mining claims, would be withdrawn from mineral entry. Possible development of the identified mineral potential would be precluded.

Social Impacts

For those lands recommended for wilderness designation, the impacts would be the same as discussed under the All-Wilderness Alternative. For those lands recommended for non-designation as wilderness, the impacts would be the same as discussed in the No-Wilderness Alternative.

Economic Impacts

As this alternative designates over 90 percent of the WSA, it would have the same impacts as the All-Wilderness Alternative. The only difference would be that San Juan County would probably forfeit $528 per year in property tax revenues instead of $607 per year as under the All-Wilderness Alternative.

TABLE 4-1

COMPARATIVE ANALYSIS MATRIX OF IMPACTS, SHORT TERM VS LONG TERM USE, IRREVERSIBLE/IRRETRIEVABLE COMMITMENT OF RESOURCES

WSA/Alternative	Adverse Impacts	Short Term Use vs Long Term Productivity	Irreversible/Irretrievable Commitment of Resources
Redcloud Peak			
All-Wilderness	Adverse impacts would occur to some resources. Increased visitor use could cause some increase in soil compaction, vegetative trampling, degradation of water, and some disruption in wildlife. Those land uses restricted by wilderness designation would be adversely affected; primarily through mineral withdrawal and difficulty of access to private land, state-owned minerals, and unpatented mining claims. Wilderness designation could adversely affect any future development of the alunite deposit in the form of increased development cost and restrictions.	The use of some resources would be foregone in order to preserve the integrity of others. In both the short and long terms, visitor use is expected to increase. The losses of some mineral values could be both short and long term. The wilderness resource, watershed protection, wildlife habitat protection, and primitive recreation opportunities could be benefited in both the short and long term.	There would be no irreversible or irretrievable commitments of resources under this alternative.
No-Wilderness	Adverse impacts could occur to the entire area's wilderness resource values, as well as to its soils, vegetation, water resources, wildlife, visual resources and cultural resources. Primitive recreation values could be adversely impacted.	The use and preservation of the integrity of some resources could be foregone in order to use some resources. In the short term visitor use is expected to increase, but in the long term visitor use may decline, or primitive recreation may be replaced by motorized recreational use. The wilderness resource, watershed protection, and wildlife habitat protection is not expected to deline in the short term however, it could decline in the long term. In both the short and long term mineral exploration and development could increase.	Should mineral exploration and development occur, irreversible trends would be established, and the lowering and degradation of wilderness resource values would be irretrievable.

TABLE 4-1

COMPARATIVE ANALYSIS MATRIX OF IMPACTS, SHORT TERM VS LONG TERM USE, IRREVERSIBLE/IRRETRIEVABLE COMMITMENT OF RESOURCES
(Continued)

WSA/Alternative	Adverse Impacts	Short Term Use vs Long Term Productivity	Irreversible/Irretrievable Commitment of Resources
Redcloud Peak			
Wilderness Manageability	Adverse impacts would occur to some resources. Increased visitor use could cause some increase in soil compaction, vegetative trampling, degradation of water, and some disruption in wildlife. Those land uses restricted by wilderness designation would be adversely affected; primarily through mineral withdrawal and difficulty of access to private land, state-owned minerals, and unpatented mining claims.	The use of some resources would be foregone in order to preserve the integrity of others. In both the short term and long term, visitor use is expected to increase. The losses of some mineral values could be both short and long term. The wilderness resource, watershed protection, wildlife habitat protection, and primitive recreation opportunties could be benefited in both the short and long term.	Within those lands not recommended for wilderness designation under this alternative, should mineral exploration and development occur, irreversible trends could be established, and the lowering and degradation of wilderness resource values would be irretrievable. There would be no irreversible or irretrievable commitments of resources for those lands recommended for wilderness designation under this alternative.
Conflict Resolution I	Portion recommened for wilderness designation: Adverse impacts would occur to some resources. Increased visitor use could cause some increase in soil compaction, vegetative trampling, degradation of water, and some disruption in wildlife. Those land uses restricted by wilderness designation would be adversely affected; primarily through mineral withdrawal and difficulty of access to private land, state-owned minerals, and unpatented mining claims.	Portion recommended for wilderness designation: The use of some resources would be foregone in order to preserve the integrity of others. In both the short term and long term, visitor use is expected to increase. The losses of some mineral values could be both short and long term. The wilderness resource, watershed protection, wildlife habitat protection, and primitive recreation opportunities could be benefited in both the short and long term.	Same as above.

TABLE 4-1

COMPARATIVE ANALYSIS MATRIX OF IMPACTS, SHORT TERM VS LONG TERM USE, IRREVERSIBLE/IRRETRIEVABLE COMMITMENT OF RESOURCES
(Continued)

WSA/Alternative	Adverse Impacts	Short Term Use vs Long Term Productivity	Irreversible/Irretrievable Commitment of Resources
Redcloud Peak			
Conflict Resolution I (Continued)	Portion recommended for non-wilderness designation: Adverse impacts would occur to the wilderness resource values, wildlife, visual resources, and cultural resources. Primitive recreation values could be adversely impacted.	Portion recommended for non-wilderness designation: The use and preservation of the integrity of some resources could be foregone in order to use some resources. In the short term visitor use is expected to increase, but in the long term visitor use may decline; or primitive recreation may be replaced by motorized recreational use. The wilderness resource, watershed protection, and wildlife habitat protection could decline in the short term and long term. In both the short term and long term mineral exploration and development could increase.	
Conflict Resolution II	Same as above.	Same as above.	Same as above.
Handies Peak			
All-Wilderness	Adverse impacts would occur to some resources. Increased visitor use could cause some increase in soil compaction, vegetative trampling, degradation of water, and some disruption in wildlife. Those land uses restricted by wilderness designation would be adversely affected; primarily through mineral withdrawal and difficulty of access to private land, state-owned minerals, and unpatented mining claims.	The use of some resources would be foregone in order to preserve the integrity of others. In both the short and long terms, visitor use is expected to increase. The losses of mineral values would be both short and long term. The wilderness resource, watershed protection, wildlife habitat protection, and primitive recreation opportunities would be benefited in both the short and long term.	There would be no irreversible or irretrievable commitments of resources under this alternative.

TABLE 4-1

COMPARATIVE ANALYSIS MATRIX OF IMPACTS, SHORT TERM VS LONG TERM USE, IRREVERSIBLE/IRRETRIEVABLE COMMITMENT OF RESOURCES (Continued)

WSA/Alternative	Adverse Impacts	Short Term Use vs Long Term Productivity	Irreversible/Irretrievable Commitment of Resources
Handies Peak			
No-Wilderness	Adverse impacts could occur to the entire area's wilderness resource values, as well as to its soils, vegetation, water resources, wildlife, visual resources and cultural resources. Primitive recreation values would be adversely impacted.	The use and preservation of the integrity of some resources would be foregone in order to use other resources. In the short term visitor use is expected to increase, but in the long term visitor use may decline, or primitive recreation may be replaced by motorized recreational use. The wilderness resource, watershed protection, and wildlife habitat protection could decline in the short term and long term. In both the short and long term mineral exploration and development could increase.	Should mineral exploration and development occur, irreversible trends would be established, and the lowering and degradation of wilderness resource values would be irretrievable.
Wilderness Manageability	Portion recommended for wilderness designation: Adverse impacts would occur to some resources. Increased visitor use could cause some increase in soil compaction, vegetative trampling, degradation of water, and some disruption in wildlife. Those land uses restricted by wilderness designation would be adversely affected; primarily through mineral withdrawal and difficulty of access to private land, state-owned minerals, and unpatented mining claims.	Portion recommended for wilderness designation: The use of some resources would be foregone in order to preserve the integrity of others. In both the short term and long term, visitor use is expected to increase. The losses of some mineral values would be both short and long term. The wilderness resource, watershed protection, wildlife habitat protection, and primitive recreation opportunities would be benefited in both the short and long term.	There would be no irreversible or irretrievable commitments of resources for those lands recommended for wilderness designation under this alternative.

TABLE 4-1

COMPARATIVE ANALYSIS MATRIX OF IMPACTS, SHORT TERM VS LONG TERM USE, IRREVERSIBLE/IRRETRIEVABLE COMMITMENT OF RESOURCES
(Continued)

WSA/Alternative	Adverse Impacts	Short Term Use vs Long Term Productivity	Irreversible/Irretrievable Commitment of Resources
Handies Peak			
Wilderness Manageability (Continued)	Portion recommended for non-wilderness designation: Adverse impacts could occur to the wilderness resource values, wildlife visual resources, and cultural resources. Primitive recreation values could be adversely impacted.	Portion recommended for non-wilderness designation: The use and preservation of the integrity of some resources would be foregone in order to use other resources. In the short term visitor use is expected to increase, but in the long term visitor use may decline; or primitive recreation may be replaced by motorized recreational use. The wilderness resource, watershed protection, and wildlife habitat protection could decline in the short term and the long term. In both the short term and long term mineral exploration and development could increase.	Within those lands not recommended for wilderness designation under this alternative, should mineral exploration and development occur, irreversible trends would be established, and the lowering and degradation of wilderness resource values would be irretrievable.
Conflict Resolution II	Same as above.	Same as above.	Same as above.
American Flats			
All-Wilderness	Adverse impacts would occur to some resources. Increased visitor use could cause some increase in soil compaction, vegetative trampling, degradation of water, and some disruption in wildlife. Those land uses restricted by wilderness designation would be adversely affected; primarily through	The use of some resources would be foregone in order to preserve the integrity of others. In both the short and long terms, visitor use is expected to increase. The losses of some mineral values would be both short and long term. The wilderness resource, watershed protection, and primitive	There would be no irreversible or irretrievable commitments of resources under this alternative.

TABLE 4-1

COMPARATIVE ANALYSIS MATRIX OF IMPACTS, SHORT TERM VS LONG TERM USE, IRREVERSIBLE/IRRETRIEVABLE COMMITMENT OF RESOURCES (Continued)

WSA/Alternative	Adverse Impacts	Short Term Use vs Long Term Productivity	Irreversible/Irretrievable Commitment of Resources
American Flats			
All-Wilderness (Continued)	mineral withdrawal and difficulty of access to state-owned minerals and unpatented mining claims.	recreation opportunities would be benefited in both the short and long term. In addition the wilderness resource values of the contiguous U.S. Forest Service wilderness area would be benefited in both the short and long term.	
No-Wilderness	Adverse impacts could occur to the entire area's wilderness resource values, as well as to its soils, vegetation, water resources, wildlife, visual resources and cultural resources. Primitive recreation values would be adversely impacted. In addition, the wilderness resource values of the contiguous U.S. Forest Service wilderness area could be adversely impacted from non-designation of this WSA as wilderness.	The use and preservation of the integrity of some resources could be foregone in order to use some resources. In the short term visitor use is expected to increase, but in the long term visitor use may decline, or primitive recreation may be replaced by motorized recreational use. The wilderness resource, watershed protection, and wildlife habitat protection could decline in the short term and long term in both the short and long term mineral exploration and development could increase.	Should mineral exploration and development occur, irreversible trends would be established, and the lowering and degradation of wilderness resource values would be irretrievable.

TABLE 4-1

COMPARATIVE ANALYSIS MATRIX OF IMPACTS, SHORT TERM VS LONG TERM USE, IRREVERSIBLE/IRRETRIEVABLE COMMITMENT OF RESOURCES
(Continued)

WSA/Alternative	Adverse Impacts	Short Term Use vs Long Term Productivity	Irreversible/Irretrievable Commitment of Resources
American Flats			
Conflict Resolution I	Portion recommended for wilderness designation: Adverse impacts would occur to some resources. Increased visitor use could cause some increase in soil compaction, vegetative trampling, degradation of water, and some disruption in wildlife. Those land uses restricted by wilderness designation would be adversely affected; primarily through mineral withdrawal and difficulty of access to unpatented mining claims.	Portion recommended for wilderness designation: The use of some resources would be foregone in order to preserve the integrity of others. In both the short term and long term, visitor use is expected to increase. The losses of some mineral values would be both short and long term. The wilderness resource, watershed protection, wildlife habitat protection, and primitive recreation opportunities would be benefited in both the short and long term.	There would be no irreversible or irretrievable commitments of resources for those lands recommended for wilderness designation under this alternative.
	Portion recommended for non-wilderness designation: Adverse impacts could occur to the wilderness resource values, wildlife, visual resources, and cultural resources. Primitive recreation values could be adversely impacted.	Portion recommended for non-wilderness designation: The use and preservation of the integrity of some resources would be foregone in order to use some resources. In the short term visitor use is expected to increase, but in the long term visitor use may decline; or primitive recreation may be replaced by motorized recreational use. The wilderness resource, watershed protection, and wildlife habitat protection could decline in the short term and long term. In both the short term and long term mineral exploration and development could increase.	Within those lands not recommended for wilderness designation under this alternative, should mineral exploration and development occur, irreversible trends would be established, and the lowering and degradation of wilderness resource values would be irretrievable.

TABLE 4-1

COMPARATIVE ANALYSIS MATRIX OF IMPACTS, SHORT TERM VS LONG TERM USE, IRREVERSIBLE/IRRETRIEVABLE COMMITMENT OF RESOURCES
(Continued)

WSA/Alternative	Adverse Impacts	Short Term Use vs Long Term Productivity	Irreversible/Irretrievable Commitment of Resources
Bill Hare Gulch			
All-Wilderness	No significant adverse impacts.	No significant short term or long term resource trade-offs would exist.	There would be no irreversible or irretrievable commitments of resources under this alternative.
No-Wilderness	Same as above.	Same as above.	Same as above.
Wilderness Manageability	Same as above.	Same as above.	Same as above.
Larson Creek			
All-Wilderness	No significant adverse impacts.	No significant short term or long term resource trade-offs would exist.	There would be no irreversible or irretrievable commitments of resources under this alternative.
No-Wilderness	Same as above.	Same as above.	Same as above.
Wilderness Manageability	Same as above.	Same as above.	Same as above.
Weminuche Contiguous			
All-Wilderness	Adverse impacts would occur to some resources. Increased visitor use could cause some increase in soil compaction, vegetative trampling, degradation of water, and some disruption in wildlife. Those land uses restricted by wilderness designation would be adversely affected; primarily through mineral withdrawal and difficulty of access to private land, state-owned minerals, and unpatented mining claims.	The use of some resources would be foregone in order to preserve the integrity of others. In both the short and long terms, visitor use is expected to increase. The losses of some mineral values would be both short and long term. The wilderness resource, watershed protection, wildlife habitat protection, and primitive recreation opportunities would be benefited in both the short and long term.	There would be no irreversible or irretrievable commitments of resources under this alternative.

TABLE 4-1

COMPARATIVE ANALYSIS MATRIX OF IMPACTS, SHORT TERM VS LONG TERM USE, IRREVERSIBLE/IRRETRIEVABLE COMMITMENT OF RESOURCES
(Continued)

WSA/Alternative	Adverse Impacts	Short Term Use vs Long Term Productivity	Irreversible/Irretrievable Commitment of Resources
Weminuche Contiguous			
All-Wilderness (Continued)		In addition the wilderness resource values of the contiguous U.S. Forest Service wilderness area would be benefited in both the short and long term.	
No-Wilderness	Adverse impacts could occur to the entire area's wilderness resource values, as well as to its soils, vegetation, water resources, wildlife, visual resources and cultural resources. Primitive recreation values could be adversely impacted. In addition, the wilderness resource values of the contiguous U.S. Forest Service wilderness area could be adversely impacted from non-designation of this WSA as wilderness.	The use and preservation of the integrity of some resources could be foregone in order to use some resources. In the short term visitor use is expected to increase, but in the long term visitor use may decline, or primitive recreation may be replaced by motorized recreational use. The wilderness resource, watershed protection, and wildlife habitat protection could decline in the short term and long term. In both the short and long term mineral exploration and development could increase.	Should mineral exploration and development occur, irreversible trends would be established, and the lowering and degration of wilderness resource values would be irretrievable.
Wilderness Manageability	Portion recommended for wilderness designation: Adverse impacts would occur to some resources. Increased visitor use could cause some increase in soil compaction, vegetative trampling, degradation of water, and some disruption in wildlife. Those land uses restricted by wilderness designation would be adversely affected; primarily through mineral withdrawal and difficulty of access to private land, state-owned minerals, and unpatented mining claims.	Portion recommended for wilderness designation: The use of some resources would be foregone in order to preserve the integrity of others. In both the short term and long term, visitor use is expected to increase. The losses of some mineral values would be both short and long term. The wilderness resource, watershed protection, wildlife habitat protection, and primitive recreation opportunities would be benefited in both the short and long term.	Within those lands not recommended for wilderness designation under this alternative, should mineral exploration and development occur, irreversible trends would be established, and the lowering and degradation of wilderness resource values would be irretrievable.

TABLE 4-1

COMPARATIVE ANALYSIS MATRIX OF IMPACTS, SHORT TERM VS LONG TERM USE, IRREVERSIBLE/IRRETRIEVABLE COMMITMENT OF RESOURCES
(Continued)

WSA/Alternative	Adverse Impacts	Short Term Use vs Long Term Productivity	Irreversible/Irretrievable Commitment of Resources
Weminuche Contiguous			
Wilderness Manageability (Continued)	Portion recommended for non-wilderness designation: Adverse impacts would occur to the wilderness resource values, wildlife, visual resources, and cultural resources. Primitive recreation values could be adversely impacted.	Portion recommended for non-wilderness designation: The use and preservation of the integrity of some resources would be foregone in order to use some resources. In the short term visitor use is expected to increase, but in the long term visitor use may decline; or primitive recreation may be replaced by motorized recreational use. The wilderness resource, watershed protection, and wildlife habitat protection could decline in the short term and long term. In both the short term and long term mineral exploration and development could increase.	There would be no irreversible or irretrievable commitments of resources for those lands recommended for wilderness designation under this alternative.
Whitehead Gulch			
All-Wilderness	Adverse impacts would occur to some resources. Increased visitor use could cause some increase in soil compaction, vegetative trampling, degradation of water, and some disruption in wildlife. Those land uses restricted by wilderness designation would be	The use of some resources would be foregone in order to preserve the integrity of others. In both the short and long terms, visitor use is expected to increase. The losses of some mineral values would be both short and long term. The wilderness resource,	There would be no irreversible or irretrievable commitments of resources under this alternative.

TABLE 4-1

COMPARATIVE ANALYSIS MATRIX OF IMPACTS, SHORT TERM VS LONG TERM USE, IRREVERSIBLE/IRRETRIEVABLE COMMITMENT OF RESOURCES
(Continued)

WSA/Alternative	Adverse Impacts	Short Term Use vs Long Term Productivity	Irreversible/Irretrievable Commitment of Resources
Whitehead Gulch			
All Wilderness (Continued)	adversely affected; primarily through mineral withdrawal and difficulty of access to private land, state-owned minerals, and unpatented mining claims.	watershed protection, wildlife habitat protection and primitive recreation opportunities would be benefited in both the short and long term. In addition the wilderness resource values of the contiguous U.S. Forest Service wilderness area would be benefited in both the short and long term.	
No-Wilderness	Adverse impacts could occur to the entire area's wilderness resource values, as well as to its soils, vegetation, water resources, wildlife, visual resources and cultural resources. Primitive recreation values could be adversely impacted. In addition, the wilderness resource values of the contiguous U.S. Forest Service wilderness area could be adversely impacted from non-designation of this WSA as wilderness.	The use and preservation of the integrity of some resources could be foregone in order to use some resources. In the short term visitor use is expected to increase, but in the long term visitor use may decline, or primitive recreation may be replaced by motorized recreational use. The wilderness resource, watershed protection, and wildlife habitat protection could decline in the short term and long term. In both the short and long term mineral exploration and development could increase.	Should mineral exploration and development occur, irreversible trends would be established, and the lowering and degradation of wilderness resource values would be irretrievable.

TABLE 4-1

COMPARATIVE ANALYSIS MATRIX OF IMPACTS, SHORT TERM VS LONG TERM USE, IRREVERSIBLE/IRRETRIEVABLE COMMITMENT OF RESOURCES

WSA/Alternative	Adverse Impacts	Short Term Use vs Long Term Productivity	Irreversible/Irretrievable Commitment of Resources
Whitehead Gulch			
Wilderness Manageability	Adverse impacts would occur to some resources. Increased visitor use could cause some increase in soil compaction, vegetative trampling, degradation of water, and a decline in wildlife. Those land uses restricted by wilderness designation would be adversely affected; primarily through mineral withdrawal and difficulty of access to private land, state-owned minerals, and unpatented mining claims.	The use of some resources would be foregone in order to preserve the integrity of others. In both the short term and long term, visitor use is expected to increase. The losses in opportunitites for solitude and losses in wildlife would be both short and long term. The losses of some mineral values would be both short and long term. The wilderness resource, watershed protection, wildlife habitat protection, and primitive recreation opportunties would be benefited in both the short and long term.	Within those lands not recommended for wilderness designation under this alternative, should mineral exploration and exploitation occur, irreversible trends would be established, and the lowering and degradation of wilderness resource values would be irretrievable. There would be irreversible or irretrievable commitments of resources for those lands recommened for wilderness designation under this alternative.
Conflict Resolution	Same as above.	Same as above.	Same as above.
Needle Creek			
All-Wilderness	Adverse impacts would occur to some resources. Increased visitor use could cause some increase in soil compaction, vegetative trampling, degradation of water, and some disruption in wildlife. Those land uses restricted by wilderness designation would be adversely affected; primarily through mineral withdrawal and difficulty of access to private land and unpatented mining claims.	The use of some resources would be foregone in order to preserve the integrity of others. In both the short and long terms, visitor use is expected to increase. The losses of some mineral values would be both short and long term. The wilderness resource, watershed protection, wildlife habitat protection, and primitive recreation opportunities would be benefited in both the short and long term.	There would be no irreversible or irretrievable commitments of resources under this alternative.

TABLE 4-1

COMPARATIVE ANALYSIS MATRIX OF IMPACTS, SHORT TERM VS LONG TERM USE, IRREVERSIBLE/IRRETRIEVABLE COMMITMENT OF RESOURCES (Continued)

WSA/Alternative	Adverse Impacts	Short Term Use vs Long Term Productivity	Irreversible/Irretrievable Commitment of Resources
Needle Creek			
All-Wilderness (Continued)		In addition the wilderness resource values of the contiguous U.S. Forest Service wilderness area would be benefited in both the short and long term.	
No-Wilderness	Adverse impacts could occur to the entire area's wilderness resource values, as well as to its soils, vegetation, water resources, wildlife, visual resources and cultural resources. Primitive recreation values could be adversely impacted. In addition, the wilderness resource values of the contiguous U.S. Forest Service wilderness area could be adversely impacted from non-designation of this WSA as wilderness.	The use and preservation of the integrity of some resources could be foregone in order to use some resources. In the short term visitor use is expected to increase, but in the long term visitor use may decline, or primitive recreation may be replaced by motorized recreational use. The wilderness resource, watershed protection, and wildlife habitat protection could decline in the short term and long term. In both the short and long term mineral exploration and development could increase.	Should mineral exploration and development occur, irreversible trends would be established, and the lowering and degradation of wilderness resource values would be irretrievable.
Wilderness Manageability	Portion recommended for wilderness designation: Adverse impacts would occur to some resources. Increased visitor use could cause some increase in soil compaction, vegetative trampling, degradation of water, and some disruption in wildlife. Those land uses restricted by wilderness designation would be adversely affected; primarily through mineral withdrawal and difficulty of access to private land and unpatented mining claims.	Portion recommended for wilderness designation: The use of some resources would be foregone in order to preserve the integrity of others. In both the short term and long term, visitor use is expected to increase. The losses of some mineral values would be both short and long term. The wilderness resource, watershed protection, wildlife habitat protection, and primitive recreation opportunities would be benefited in both the short and long term.	There would be no irreversible or irretrievable commitments of resources for those lands recommended for wilderness designation under this alternative.

TABLE 4-1

COMPARATIVE ANAYSIS MATRIX OF IMPACTS, SHORT TERM VS LONG TERM USE, IRREVERSIBLE/IRRETREIVABLE COMMITMENT OF RESOURCES
(Continued)

WSA/Alternative	Adverse Impacts	Short Term Use vs Long Term Productivity	Irreversible/Irretrievable Commitment of Resources
Needle Creek			
Wilderness Manageability (Continued)	Portion recommended for non-wilderness designation: Adverse impacts could occur to the wilderness resource values, wildlife, visual resources, and cultural resources. Primitive recreation values would be adversely impacted.	Portion recommended for non-wilderness designation: The use and preservation of the integrity of some resources could be foregone in order to use some resources. In the short term visitor use is expected to increase, but in the long term visitor use may decline; or primitive recreation may be replaced by motorized recreational use. The wilderness resource, watershed protection, and wildlife habitat protection could decline in the short term and long term. In both the short term and long term mineral exploration and development could increase.	Within those lands not recommended for wilderness designation under this alternative, should mineral exploration and development occur, irreversible trends would be established, and the lowering and degradation of wilderness resource values would be irretrievable.

SUPPORT DATA

LIST OF PREPARERS

Title	Name	Degree and School	Experience (Years)	Sections for Which Responsible
Team Leader	Lance Nimmo	BS Forestry University of Montana	9	All
Core Team				
Geologist	Ben Sprouse	BS Geology University of South Colorado	6	All-With emphasis in Minerals and Geology
Wilderness Coordinator	John Wesley Sering	BA Geography California State University at Long Beach MS Geography/Wilderness Management University of Idaho	8	All-With emphasis in Wilderness Resources
Writer/Editor	Chet Wheeless	BS Fisheries Biology New Mexico State University MS Environmental Studies University of Montana	3	All
Office Manager	Mary Ann Howell	University of Washington	32	All-Clerical
Identification Team				
Realty Specialist	Phil Bailey	BS Forestry Oklahoma State University	6	Land/Access
Forester	Joe Vessels	BS Forestry Management Colorado State University	4	Forestry
Range Conservationist	Ed Singleton	BS Range Management New mexico State University Some Graduate School in Range Management	6	Livestock Grazing/Vegetation

LIST OF PREPARERS
(Continued)

Title	Name	Degree and School	Experience (Years)	Sections for Which Responsible
Wildlife Biologist	Mike Blymyer	BS Conservation and Resource Development University of Maryland MS Wildlife Management Virginia Polytechnic Institute and State University	8	Terrestrial Wildlife
Fisheries Biologist	Jeff Cameron	BA Biological Science California State University at Sacramento Some Graduate School in Fisheries/Entomology	4	Aquatic Wildlife
Recreation Planner	Larry McMasters	BS Park Administration Texas Technical University	3	Recreation
Recreation Planner	Chip Marlow	BS Forest Recreation/Park Management Souther Illinois University MS Forest Recreation/Park Management Southern Illinois University	9	Recreation
Landscape Architect	Francisco Mendoza	BS Landscape Architecture University of Arizona	4	Visual Resources
Archeologist	Douglas Scott	BS Anthropology University of Colorado PhD Anthropology University of Colorado	5	Cultural Resources
Soil Scientist	William Ypsilantis	BS Forest Management Michigan Technological University MS Forest/Soils	8	Soils

LIST OF PREPARERS
(Continued)

Title	Name	Degree and School	Experience (Years)	Sections for Which Responsible
Hydrologist	Dennis Murphy	BS Forest/Watershed Utah State University Some Graduate work in Hydrology	3	Water Resourses
Sociologist	Barbara Schmalz	BS History/Sociology/German Dickinson State College MA Sociology University of Colorado	7	Sociology
Economist	John Martin	BS Agricultural Business Management California Polytechnic State University MS Agricultural Economics University of Nevada	6	Economics
Environmental Coordinator	Bruce Flinn	BS Forest Recreation Colorado State University	8	Wilderness Study Team Leader/Air Quality
Economist	Charles Romaniello	BA Anthropology University of Arizona MS Agricultural Economics University of Arizona	2	Economist

LIST OF AGENCIES, ORGANIZATIONS, AND PERSONS TO WHOM COPIES OF THE ENVIRONMENTAL IMPACT STATEMENT WERE SENT

Federal Agencies

- Advisory Council on Historic Preservation
- Department of Agriculture
  - Forest Service
  - Soil Conservation Service
- Department of Energy
- Department of the Interior
  - U.S. Fish and Wildlife Service
  - Bureau of Reclamation
  - Geological Survey
  - Bureau of Mines
  - National Park Service
- Environmental Protection Agency

State Agencies

- Governor's Clearing House--Colorado

Local Agencies

- County Commissioners
  - La Plata County
  - Ouray County
  - Gunnison County
  - Hinsdale County
  - San Juan County
  - Saguache County
  - Montrose County

- Region 10 Planning Commission

Other Organizations and Individuals

- Sierra Club
- Colorado Open Space Council
- Izaak Walton League
- National Wildlife Federation
- Colorado Cattlemen's Association
- Colorado Wool Grower's Association
- Audubon Society
- Natural Resources Defense Council
- Society for Range Management
- The Wilderness Society

Rocky Mountain Center on Environment
Trout Unlimited
Colorado Historical Society
National Council of Public Land Users
Colorado Outward Bound School
American Wilderness Alliance
American Mining Congress
Aspen Wilderness Workshop
Club 20
Colorado Association 4WD Clubs
Colorado Farm Bureau
Colorado Mining Association
Colorado Mountain Club
Colorado Outfitter and Ranch Enterprise
University of Colorado, Environmental Center
Wilderness Study Group, University of Colorado
Colorado State University
Conservation Library
Delta-Montrose Electric Association
Western Colorado Congress
Federal Timber Purchaser's Association
Gunnison County Farm Bureau
Gunnison County Stockgrowers
University of Illinois
Institute of Ecology
University of Minnesota
Montrose Chamber of Commerce
Montrose County Farm Bureau
Northwestern University
Outdoor Pursuits
Public Lands Institute
San Miguel Citizen's Alliance
Tri River Extension Service
Uncompahgre Resource Council
Chardron State College
Western Slope Energy
Western State College
Wildlife Management Institute
All Livestock Grazing Permittees in the EIS Area
Various Individuals Who Have Requested Copies of
All BLM Environmental Documents

GLOSSARY

ADIT. A horizontal entrance to an underground mine, as opposed to a shaft, which is vertical.

ALUNITE. A mineral, hydrous potassium aluminum sulfate.

ANIMAL UNIT MONTH (AUM). The amount of forage required to sustain one cow or five sheep for a month.

ANOMALY. A deviation from the norm. A feature considered capable of being associated with commercially valuable mineral deposits.

BASE METALS. Ore metals inferior in value to gold and silver; commonly lead, zinc, copper.

CALDERA. A large volcanic depression, more or less circular in form, the diameter of which is many times greater than that of the included volcanic vent or vents.

CIRQUE. A steep-walled recess in the side of a mountain, caused by glacial erosion.

CONTIGUOUS. Lands or legal subdivisions having a common boundary; lands having only a common corner are not contiguous.

DENDRITIC DRAINAGE PATTERN. A pattern of stream drainage characterized by irregular branching in all directions with the tributaries joining the main stream at all angles.

HYDROTHERMAL ALTERATION: Changes in the mineralogical makeup of a body of rock resulting from the interaction of hot magmatic emanations containing abundant water.

OUTSTANDING. 1) Standing out among others of its kind; conspicuous; prominent. 2) Superior to others of its kind, distinguished, excellent.

PRECIOUS METALS. Gold and silver.

PRIMITIVE AND UNCONFINED RECREATION. Nonmotorized and nondeveloped types of outdoor recreational activities.

RECREATION VISITOR DAY (RVD). One individual for 12 hours.

ROAD (ROADLESS). Refers to the absence of roads which have been improved and maintained by mechanical means to insure relatively regular and continuous use. A way maintained solely by the passage of vehicles does not constitute a road.

ROCK GLACIER. A glacierlike mass of angular rock fragments usually heading in cirques or other steep-walled amphitheaters.

SOLITUDE. 1) The state of being alone or remote from habitations, isolation. 2) A lonely, unfrequented, or secluded place.

STANDARD METROPOLITAN STATISTICAL AREA (SMSA). An SMSA is a county which contains at least one city of 50,000 inhabitants or more plus as many adjacent counties as are metropolitan in character and are socially integrated with that central city or cities.

WILDERNESS. The definition contained in Section 2(c) of the Wilderness Act of 1964 (78 Stat. 891). "A wilderness in contrast with those areas where man and his own works dominate the landscape is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean . . . an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological or other features of scientific, educational scenic, or historical value.

WILDERNESS AREA. An area formally designated by Congress as part of the National Wilderness Preservation System.

WILDERNESS STUDY AREA (WSA). A roadless area or island that has been inventoried and found to have wilderness characteristics as described in Section 603 of FLPMA and Section 2(c) of the Wilderness Act of 1964.

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APPENDIX 1.1

WILDERNESS STUDY POLICY AND PLANNING CRITERIA

The primary goal of the BLM wilderness study process is to recommend for wilderness designation those areas for which it was been determined, through the Bureau's multiple resource planning process and public involvement, that wilderness is the most appropriate alternative use of the land and its resources. The planning criteria which follow will be used in making the analysis on which that determination will be based. These criteria will be applied to BLM wilderness study areas through the BLM planning process, and each criterion will be fully considered and documented in determining whether a WSA is more suitable for wilderness or for other uses.

All BLM wilderness recommendations--both "suitable for preservation as wilderness" and "nonsuitable"--will be justified on the basis of the following criteria.

1. Requirements for Areas Recommended as Suitable for Wilderness Designation.

Areas recommended by the BLM as suitable for wilderness designation must, at a minimum, satisfy both of the following factors:

a. Benefits: The area's identified wilderness values, together with the full range of public benefits which designation would provide to multiple resource values and uses over time must be sufficient to offset the benefits of other resource values and uses which could be foregone due to wilderness designation; and

b. Manageability: The area must be capable fo being effectively managed to preserve its wilderness character in perpetuity.

2. Public Comment.

In determining whether an area is suitable or nonsuitable for wilderness designation, the BLM wilderness study process will consider comments received from interested and affected publics at all levels--local, State, regional and national--with special consideration given to the involvement of those local peoples and institutions that would be most directly affected by the area's designation. Wilderness recommendations will not be based on a vote-counting majority rule system. The BLM will develop its recommendations by considering public comment in conjunction with a full analysis of a wilderness study area's multiple resource and socio-economic values and uses.

3. Local and Regional Socio-Economic Effects.

In determining whether an area is suitable or nonsuitable for wilderness designation, the BLM will give special attention to any significant socio-economic effects, as identified through the wilderness study process, which designation of the area would have on local communities or surrounding regions.

4. Energy and Critical Mineral Resource Values.

Recommendations as to an area's suitability or nonsuitability for wilderness designation will also reflect a thorough consideration of any identified or potential energy and critical mineral resource values present in the area which are capable of meeting domestic energy and critical mineral production needs, and the extent to which wilderness management of such areas would be in the public interest.

5. Consistency with Other Plans.

In determining whether an area is suitable or nonsuitable for wilderness designation, the BLM will fully consider and document the extent to which the recommendation is consistent with officially approved and adopted resource-related plans of other Federal agencies, State and local governments, and Indian tribes (and the policies and programs contained in such plans), as required by FLPMA and the BLM planning regulations.

6. Impacts on Other Resources.

Consider the extent to which other resource values or uses of the area would be foregone or adversely affected as a result of wilderness designation.

7. Impacts on Wilderness.

Consider the alternative use of the land under study if the area is not designated as wilderness, and the extent to which the wilderness values of the area would be foregone or adversely affected as a result of this use.

8. Evaluation of Wilderness Values.

Consider the extent to which each of the following components contributes to the overall value of an area for wilderness purposes:

a. Mandatory Wilderness Characteristics: The quality of the area's mandatory wilderness characteristics--size, naturalness, and outstanding opportunities for solitude or primitive recreation.

b. Special Features: The presence or absence, and the quality of the following optional wilderness characteristics--ecological, geological, or other features of scientific, educational scenic, or historical value.

c. Multiple Resource Benefits: The benefits to other multiple resource values and uses which wilderness designation of the area could ensure.

9. Diversity in the National Wilderness Preservation System: Consider the extent to which wilderness designation of the area under study would contribute to expanding the diversity of the National Wilderness Preservation

System on (1) a statewide basis, (2) a regional basis, or (3) a national basis, from the standpoint of each of the factors listed below:

a. Expanding the diversity of natural systems and features, as represented by ecosystems and landforms.

b. Expanding the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers.

c. Balancing the geographic distribution of wilderness areas.

The analysis should consider--in separate categories--all Federal and State land designated as wilderness, all areas officially recommended for wilderness, and all other Federal and State lands under wilderness study. (The State lands referred to here are those involved in State government's wilderness programs.)

APPENDIX 2.1

JUL 1 6 1981

Interagency Cooperative Agreement
between the
San Juan National Forest,
Department of Agriculture
and
Montrose District, Bureau of Land Management,
Department of the Interior
in the state of Colorado

I. Purpose. The purpose of this agreement between the Bureau of Land Management (BLM) and U.S. Forest Service (FS) is to establish responsibilities, coordinated procedures, and schedules to facilitate a joint wilderness study review of the FS West Needles Further Study Area (15,800 acres) and the BLM West Needles Contiguous Wilderness Study Area (5,780 acres).

II. Authorities.

A. National Environmental Policy Act (42 U.S.C. 4321 et seq.)

B. Wilderness Act of 1964 (16 U.S.C. 1131-1136)

C. National Forest Management Act (16 U.S.C. 1601-1614)

D. Federal Land Policy and Management Act (43 U.S.C. 1701 et. seq)

E. Economy Act (31 U.S.C. 686, 686b)

F. E.O. 11514

G. 40 CFR 1500-1508

H. 36 CFR 219, Subpart A

III. Guidelines and Procedures. Overall guidance and procedures of joint wilderness study shall be followed to the maximum practicable extent as defined in the national level FS-BLM agreement on joint wilderness studies (FSM 150 and WO-163).

Lead Agency. The FS is the lead agency and will provide principal leadership and oversight in ensuring that a joint study plan is developed, carried out, and reported.

The FS will include the BLM Wilderness Study Areas contiguous to the West Needles Further Study Area in its Forest Land and Resource Management Planning Process.

The FS wilderness study approaches will be utilized.

In addition, the FS will oversee the study effort, meeting periodically and upon cooperating agency request to assess progress, identify and resolve operating problems, implement a public participation plan, and oversee preparation and submission of the associated environmental statement and study report.

Cooperating Agency. The BLM is the cooperating agency and will support the FS in planning for and execution of a study, and preparation of attendant reports and recommendations.

The BLM will assist and facilitate joint study efforts and will regularly consult with and, so far as possible, respond to requests of the FS for information and/or assistance. The BLM shall, to the extent possible, share printing, hearing, or other administrative support costs.

The FS and BLM shall submit a joint report and recommendation and will indicate a preferred alternative in the draft study report and DEIS.

Both agencies will maintain field-level contracts, if required, with the Bureau of Mines and Geological Survey with regard to associated mineral survey reports.

In addition, both the FS and BLM will (1) encourage and provide for each other's participation in data gathering efforts and foster common and compatible data collection and correlation for mutual adequacy in meeting respective agency needs; (2) provide for ready access to an exchange of inventory data, maps, etc.; and (3) furnish review copies of environmental statements and study reports.

IV. Other Provisions. Any problems or situations which cannot be reconciled at the Forest Supervisor-District Manager level shall promptly be referred through channels to higher authority for resolution. Nothing in this agreement is to be construed as obligating either agency to expend funds or manpower resources in excess of that authorized by law or allocated administratively to the Forest Supervisor and District Manager for study work.

V. Effective Date. This agreement will become effective on the date of the last signature. Either party, the Forest Supervisor, Forest Service or District Manager, Bureau of Land Management, may terminate this agreement by providing 60 days written notice. Unless terminated by written notice, this agreement shall remain in force until a final decision is made, either by the Administration, or by an act of Congress. Amendments may be proposed by either party at any time, and will become effective upon joint approval.

For Forest Supervisor, San Juan
National Forest

July 29, 1981
Date

District Manager, Montrose District

July 15, 1981
Date

APPENDIX 2.2

JUL 16 1981

Interagency Cooperative Agreement
between the Grand Mesa,
Uncompahgre and Gunnison National Forests,
Department of Agriculture
and
Montrose District, Bureau of Land Management,
Department of the Interior
in the state of Colorado

I. Purpose. The purpose of this agreement between the Bureau of Land Management (BLM) and U.S. Forest Service (FS) is to establish responsibilities, coordinated procedures, and schedules to facilitate a joint wilderness study review of the FS Cannibal Plateau Further Planning Area (31,990 acres) and the BLM Sparling Gulch/Friends Creek Wilderness Study Area (1,840 acres) and Slumgullion Slide Wilderness Study Area (1,640 acres).

II. Authorities.

A. National Environmental Policy Act (42 U.S.C. 4321 et seq.)

B. Wilderness Act of 1964 (16 U.S.C. 1131-1136)

C. National Forest Management Act (16 U.S.C. 1601-1614)

D. Federal Land Policy and Management Act (43 U.S.C. 1701 et. seq)

E. Economy Act (31 U.S.C. 686, 686b)

F. E.O. 11514

G. 40 CFR 1500-1508

H. 36 CFR 219, Subpart A

III. Guidelines and Procedures. Overall guidance and procedures of joint wilderness study shall be followed to the maximum practicable extent as defined in the national level FS-BLM agreement on joint wilderness studies (FSM 15$^{3}_{\wedge}$0 and WO-163).

Lead Agency. The FS is the lead agency and will provide principal leadership and oversight in ensuring that a joint study plan is developed, carried out, and reported.

The FS will include the BLM Wilderness Study Areas contiguous to the Cannibal Plateau Further Planning Area in its Forest Land and Resource Management Planning Process.

The FS wilderness study approaches will be utilized.

In addition, the FS will oversee the study effort, meeting periodically and upon cooperating agency request to assess progress, identify and resolve operating problems, implement a public participation plan, and oversee preparation and submission of the associated environmental statement and study report.

Cooperating Agency. The BLM is the cooperating agency and will support the FS in planning for and execution of a study, and preparation of attendant reports and recommendations.

The BLM will assist and facilitate joint study efforts and will regularly consult with and, so far as possible, respond to requests of the FS for information and/or assistance. The BLM shall, to the extent possible, share printing, hearing, or other administrative support costs.

The FS and BLM shall submit a joint report and recommendation and will indicate a preferred alternative in the draft study report and DEIS.

Both agencies will maintain field-level contracts, if required, with the Bureau of Mines and Geological Survey with regard to associated mineral survey reports.

In addition, both the FS and BLM will (1) encourage and provide for each other's participation in data gathering efforts and foster common and compatible data collection and correlation for mutual adequacy in meeting respective agency needs; (2) provide for ready access to an exchange of inventory data, maps, etc.; and (3) furnish review copies of environmental statements and study reports.

IV. Other Provisions. Any problems or situations which cannot be reconciled at the Forest Supervisor-District Manager level shall promptly be referred through channels to higher authority for resolution. Nothing in this agreement is to be construed as obligating either agency to expend funds or manpower resources in excess of that authorized by law or allocated administratively to the Forest Supervisor and District Manager for study work.

V. Effective Date. This agreement will become effective on the date of the last signature. Either party, the Forest Supervisor, Forest Service or District Manager, Bureau of Land Management, may terminate this agreement by providing 60 days written notice. Unless terminated by written notice, this agreement shall remain in force until a final decision is made, either by the Administration, or by an act of Congress. Amendments may be proposed by either party at any time, and will become effective upon joint approval.

For

Forest Supervisor, Grand Mesa,
Uncompahgre and Gunnison National
Forests

July 22, 1981
Date

District Manager, Montrose District

July 15, 1981
Date

APPENDIX 2.3

IA-2-81-13-0001

Interagency Cooperative Agreement
between the
San Juan National Forest,
Department of Agriculture
and
Montrose District, Bureau of Land Management,
Department of the Interior
in the State of Colorado

I. Purpose. The purpose of this agreement between the Bureau of Land Management (BLM) and U.S. Forest Service (FS) is to establish responsibilities, coordinated procedures, and schedules to facilitate a joint wilderness study review of the Weminuche Contiguous (1,840 acres), Whitehead Gulch (5,640 acres), and Needle Creek (4,200 acres), BLM Wilderness Study Areas which are contiguous to the FS Weminuche Wilderness Area (463,429 acres).

II. Authorities.

A. National Environmental Policy Act (42 U.S.C. 4321 et seq.)

B. Wilderness Act of 1964 (16 U.S.C. 1131-1136)

C. National Forest Management Act (16 U.S.C. 1601-1614)

D. Federal Land Policy and Management Act (43 U.S.C. 1701 et seq.)

E. Economy Act (31 U.S.C. 686, 686b)

F. E.O. 11514

G. 40 CFR 1500-1508

H. 36 CFR 219, Subpart A

III. Guidelines and Procedures. Overall guidance and procedures of joint wilderness study shall parallel, to the maximum practicable extent, the national level FS-BLM agreement on joint wilderness studies (FSM 150 and WO-163).

Lead Agency. The BLM is the lead agency and will provide principal leadership and oversight in ensuring that a joint study plan is developed, carried out, and reported.

The BLM wilderness study approaches will be utilized.

In addition, the BLM will oversee the study effort, meeting periodically and upon cooperating agency request to assess progress, identify and resolve operating problems, implement a public participation plan, and oversee preparation and submission of the associated environmental statement and study report.

Cooperating Agency. The FS is the cooperating agency and will support the BLM in planning for and execution of a study, and preparation of attendant reports and recommendations.

The FS will assist and facilitate joint study efforts and will regularly consult with and, so far as possible, respond to requests of the BLM for information and/or assistance. The FS shall, to the extent possible, share printing, hearing, or other administrative support costs.

The FS and BLM shall submit a joint report and recommendation and will indicate a preferred alternative in the draft study report and DEIS.

Both agencies will maintain field-level contracts, if required, with the Bureau of Mines and Geological Survey with regard to associated mineral survey reports.

In addition, both the FS and BLM will (1) encourage and provide for each other's participation in data gathering efforts and foster common and compatible data collection and correlation for mutual adequacy in meeting respective agency needs; (2) provide for ready access to an exchange of inventory data, maps, etc.; and (3) furnish review copies of environmental statements and study reports.

IV. Other Provisions. Any problems or situations which cannot be reconciled at the Forest Supervisor-District Manager level shall promptly be referred through channels to higher authority for resolution. Nothing in this agreement is to be construed as obligating either agency to expend funds or manpower resources in excess of that authorized by law or allocated administratively to the Forest Supervisor and District Manager for study work.

In the event that these BLM Wilderness Study Area lands, or portion therein, are transferred to the FS by act of Congress, these lands shall continue to be studied by the FS for their wilderness suitability. In addition, the FS would become the "lead agency" and BLM would become the "cooperating agency" as defined in this cooperative agreement.

V. Effective Date. This agreement will become effective on the date of the last signature. This agreement shall remain in force until a final decision is made, either by the Administration, or by an act of Congress.

9/3/81

Forest Supervisor, San Juan
National Forest

Date

August 25, 1981

District Manager, Montrose District

Date

APPENDIX 3.1

There are presently 12 designated wilderness areas found within this region.

Wilderness Area	Acreage	Managing Agency
Big Blue	97,700	USFS
Black Canyon of the Gunnison	11,180	NPS
La Garita	108,486	USFS
Lizard Head	45,600	USFS
Mesa Verde	8,000	NPS
Mount Sneffels	16,200	USFS
Raggads	68,000	USFS
Weminuche	463,429	USFS/BLM
West Elks	194,412	USFS

In addition, a portion of three designated wilderness areas overlap into the Southwest Colorado region:

Wilderness Area	Acreage	Managing Agency
Collegiate Peaks	159,900	USFS
Maroon Bells/Snowmass	174,060	USFS
South San Juans	130,000	USFS

APPENDIX 3.2

An addition 19 areas within this region are undergoing study for possible recommendation to Congress for wilderness designation:

Study Area	Acreage	Managing Agency
Adobe Badlands	10,560	BLM
Cahone Canyon	8,385	BLM
Camel Back	10,900	BLM
Cannibal Plateau	31,990	USFS
Cross Canyon	9,440	BLM
Dolores River Canyon	25,550	BLM
Dominguez Canyon	75,800	BLM
Fossil Ridge	54,700	USFS
Gunnison Gorge	20,240	BLM
McKenna Peak	21,900	BLM
Menefee Mountain	7,360	BLM
Oh-Be-Joyful	5,500	USFS
Powderhorn Primitive Area	44,951	BLM
Squaw/Papoose Canyon	11,260	BLM
South San Juan	32,800	USFS
Tabeguache Creek	7,270	BLM
Weber Mountain	6,320	BLM
West Needles	15,800	USFS
Wheeler Geologic Area	14,000	USFS

All of the WSAs within the American Flats/Silverton Planning Unit population centers (Standard Metropolitan Statistical Areas). These SMSAs in Colorado are Denver, Boulder, Colorado Springs, and Pueblo. However, there are already 18 designated wilderness areas and 29 areas undergoing study for possible wilderness designation within a days driving time of these major population center. The following designated wilderness areas are within five hours driving time of major population centers in Colorado:

Wilderness Area	Acreage	Managing Agency
Cache Le Poudre	9,400	USFS
Collegiate Peaks	159,900	USFS
Comanche Peak	67,500	USFS
Eagles Nest	133,688	USFS
Great Sand Dunes	33,450	NPS
Holy Cross	126,000	USFS
Hunter-Frying Pan	74,450	USFS
Indian Peaks	70,000	USFS
La Garita	108,486	USFS

Lost Creek	106,000	USFS
Maroon Bells-Snowmass	174,329	USFS
Mount Evans	73,000	USFS
Mount Massive	26,000	USFS
Mount Zirkel	140,972	USFS
Nesta	9,900	USFS
Never Summer	14,100	USFS
Rawah	76,394	USFS
West Elk	194,412	USFS

APPENDIX 3.3

The following areas have been recommended for wilderness designation or are undergoing study and are within a days driving time of major population centers in Colorado.

Name of Area	Acres	Managing Agency
Beaver Creek	26,150	BLM
Black Canyon	2,300	BLM
Browns Canyon	6,614	BLM
Buffalo Peaks	56,900	USFS
Bull Gulch	15,000	BLM
Cannibal Plateau	31,990	USFS
Castle Peak	11,940	BLM
Eagle Mountain	330	BLM
Fossil Ridge	54,700	USFS
Greenhorn Mountain	22,300	USFS
Lower Grape Canyon	11,700	BLM
McIntyre Hills	16,800	BLM
Papa Kesl	1,020	BLM
Piedra	41,500	USFS
Porphory Mountain	8,000	USFS
Powderhorn Primitive Area	44,951	BLM
Rocky Mountain	239,835	NPS
Saint Louis Peak	12,800	USFS
Sand Castle	1,644	BLM
Sangre de Cristo	221,000	USFS
San Luis Hills	10,240	BLM
Service Creek	39,860	USFS
South Piney Creek	870	BLM
Spanish Peaks	19,600	USFS
Troublesome	8,250	BLM
Upper Grape Canyon	10,200	BLM
Vasquez Peak	12,800	USFS
Williams Fork	74,770	USFS
Zapata Creek	720	BLM

APPENDIX 3.4

Scenic Quality and VRM Objectives for All WSAs

Wilderness Study Area	Number	WSA Area	Scenic Quality A	Scenic Quality B	Management Objectives II
Redcloud Peak 2/	208	32,800	27,501	5,299	32,800
Handies Peak 2/	241	16,100	13,540	2,560	16,100
American Flats 2/	217	3,400	3,400	0	3,400
Larson Creek 1/	086	880	0	880	880
Bill Hare Gulch 1/	085	350	0	350	350
WeminucheContiguous 2/	238B	1,840	1,840*	0	1,840
Whitehead Gulch 2/	230B	5,640	5,640**	0	5,640
Needle Creek 3/	229B	4,200	4,200	0	4,200

Note: All areas are in acres.

* Only 1,996 acres were actually inventoried.

** 640 acres were not inventoried.

1/ Gunnison Basin URA 3, .47 Recreation-Visual, 1976.

2/ American Flats MFP Step 1, .47 D, Visual.

3/ This area has not been inventoried. Interim survey conducted in July 1981.

TABLE 3.5

Existing Scenic Quality

Landform	WSA Number							
Form	085	086	208	217	229B	230B	238B	241
Cliffs	X	X	X	X		X	X	X
Steep Slopes	X	X	X	X		X	X	X
Moderate Slopes	X	X	X	X		X	X	X
Flats	X	X	X	X		X	X	
Tallus Slopes			X	X		X	X	
Line								
Rock Outcrops	X	X	X	X		X	X	X
Rounded Peaks	X	X	X	X		X	X	X
Jagged Peaks			X	X		X	X	
Rounded Ridges	X	X	X	X		X	X	X
Jagged Ridges			X	X		X	X	X
Ridge Lines Elevation								
Other								
V-Shape Canyons	X	X	X	X		X		X
Avalanche Runs			X	X		X	X	
Broad Valleys			X	X		X	X	X
Swift Streams	X	X	X			X	X	X
Gentle Streams								
Steep Gulches	X	X	X			X	X	X
Waterfalls							X	X
Flat Water Bodies			X	X		X	X	

TABLE 3.6

Quality of Scenery Adjacent to WSAs

Wilderness Study Area	Number	Adjacent Scenic Quality		Adjacent Management Objectives	
		A	B	I	II
Redcould Peak	208	25.1	11.4	2.8*	33.7
Handies Peak	241	28.2		12.4*	15.8
American Flats	217	14.4		6.8**	7.6
Larson Creek	086	1.6	3.8	1.7**	3.7
Bill Hare	085	1.5	2.6	1.1**	3.0
Weminuche Contiguous	238B	9.2		1.0*	8.2
Whitehead Gulch	230B	17.2		6.5*	10.7
Needle Creek	229B	17.8		13.1*	4.7

Note: The effect of adjacent conditions is measured as the extent of the affected boundaries in miles.

* Adjoining USFS Weminuche Wilderness.
** Adjoining Uncompahgre Primitive Area, Uncompahgre National Forest.

TABLE 3.7

Sensitivity to Visual Modifications in the WSAs

Wilderness Study Area	Number	Viewers Attitude	Viewer Volume	Viewing Distance
Redcloud Peak	208	H	H	F
Handies Peak	241	H	H	F
American Flats	217	H	H	F
Larson Creek	086	H	H	F
Bill Hare Gulch	085	H	H	F
Weminuche Contiguous	238B	H	M	F
Whitehead Gulch	230B	H	H	F
Needle Creek	229B	H	L	S

H = High visual sensitivity to change.
M = Moderate sensitivity.
L = Low sensitivity.
F = Foregound 0-1 mile.
M = Middleground 1-5 miles.
B = Background 5-15 miles.
S = Seldom seen areas.

APPENDIX 3.8

Mineral Evaluation System

Favorability

Favorability is the potential of a particular geologic environment to contain quantities of mineral resources. Favorability does not consider the feasibility of extraction, the accessibility, or other factors that might preclude economic development of the resource. The rating is based on factorswhich are (1) adverse, (2) permissive, (3) suggestive, and (4) highly suggestive of the nature of the geologic framework present within and adjacent to a particular location.

Rating	Definition
1.	The lowest measure of favorability; very few geologic characteristics favorable for the accumulation of a given resource are know to be present.
2.	Low intermediate favorability; some geologic characteristics are present that are favorable for the accumulation of a given resource.
3.	High intermediate favorability; a number of geologic characteristics are present that suggest the occurrence of a given resource.
4.	Highest favorability; many geologic features are present that indicate the occurrence of a given resource.
U.	Unknown favorability; this rating will be applied when there are insufficient facts or certainty of potential about the area.

Evaluation of Mineral Potential

WSA: Redcloud Peak CO-030-208

Gross Acreage: 40,000

Resource	Rating
Oil and Gas	1
Coal	1
Geothermal	U
Uranium	3
Base and Precious Metals	4
Other Minerals	4

Summary: Large areas of hydrothermal alternation, numerous surface exposures of sulfide-bearing quartz veins, stream-sediment analysis, mining claim locations, industry exploration data, and the mining history of the general area indicate an extremely high probability of the existance of ore-grade material throughout this area.

WSA: Handies Peak CO-030-241

Gross Acreage: 18,000

Resource	Rating
Oil and Gas	1
Coal	1
Geothermal	U
Uranium	2
Base and Precious Metals	4
Other Minerals	4

Summary: The geologic structure and host-rock types, as well as geochemical sample analysis and exploration information from industry along with the mining history and current interest as shown by mining claim locations indicate a high probability of the occurrence of metallic mineral deposits of economic significance.

WSA: American Flats CO-030-217

Gross Acreage: 4,700

Resource	Rating
Oil and Gas	1
Coal	1
Geothermal	U
Uranium	3
Base and Precious Metals	4
Other Minerals	3

Summary: The proximity of this area to the historical mining areas of the Eureka Graben and to the caldera structures of the Lake City and Uncompahgre calderas, along with the exposure of sulfide-bearing veins and geochemical sample data indicate a high probability of mineral occurrences, particularly in the southern and eastern portions of the area.

WSA: Bill Hare Gulch CO-030-085

Gross Acreage: 370

Resource	Rating
Oil and Gas	1
Coal	1

Geothermal	U
Uranium	1
Base and Precious Metals	1
Other Minerals	1

Summary: This area is not within the mineralized zone associated with the Lake City Caldera. Although there are exposures of andesite dikes within this WSA which radiate from the Larson volcanic center, there is no evidence of mineralization associated with them. This area is rated as having low mineral potential.

WSA: Larson Creek CO-030-086

Gross Acreage: 900

Resource	Rating
Oil and Gas	1
Coal	1
Geothermal	U
Uranium	1
Base and Precious Metals	1
Other Minerals	2

Summary: This area is not included within the mineralized zone associated with the Lake City Caldera. The area contains the Larson volcanic center and associated dikes. There is evidence of prospecting activity on the exposure of one of these dikes, but no mineralization is evident.

WSA: Weminuche Contiguous CO-030-238B

Gross Acreage: 1,980

Resource	Rating
Oil and Gas	1
Coal	1
Geothermal	U
Uranium	U
Base and Precious Metals	3
Other Minerals	2

Summary: The area is adjacent to the highly productive gold and silver bearing areas associated with the Silverton Caldera. Many of the controlling structures and veins which occur in the productive area to the north are also found within the WSA, but little exploration has been done in this area. The likelyhood of the occurrence of veins containing base and precious metal deposits is moderate to high.

WSA: Whitehead Gulch CO-030-230B

Gross Acreage: 6,200

Resource	Rating
Oil and Gas	1
Coal	1
Geothermal	U
Uranium	4
Base and Precious Metals	4
Other Minerals	3

Summary: Small quartz-pyrite veins occur in the vicinity of Whitehead Gulch, with good potential for the occurrence of small, high-grade deposits of base and precious metals. Some sporadic production from a uranium mine just west of the WSA indicates a good potential for uranium occurrences associated with the quartz-pyrite veins in the central portion of the area.

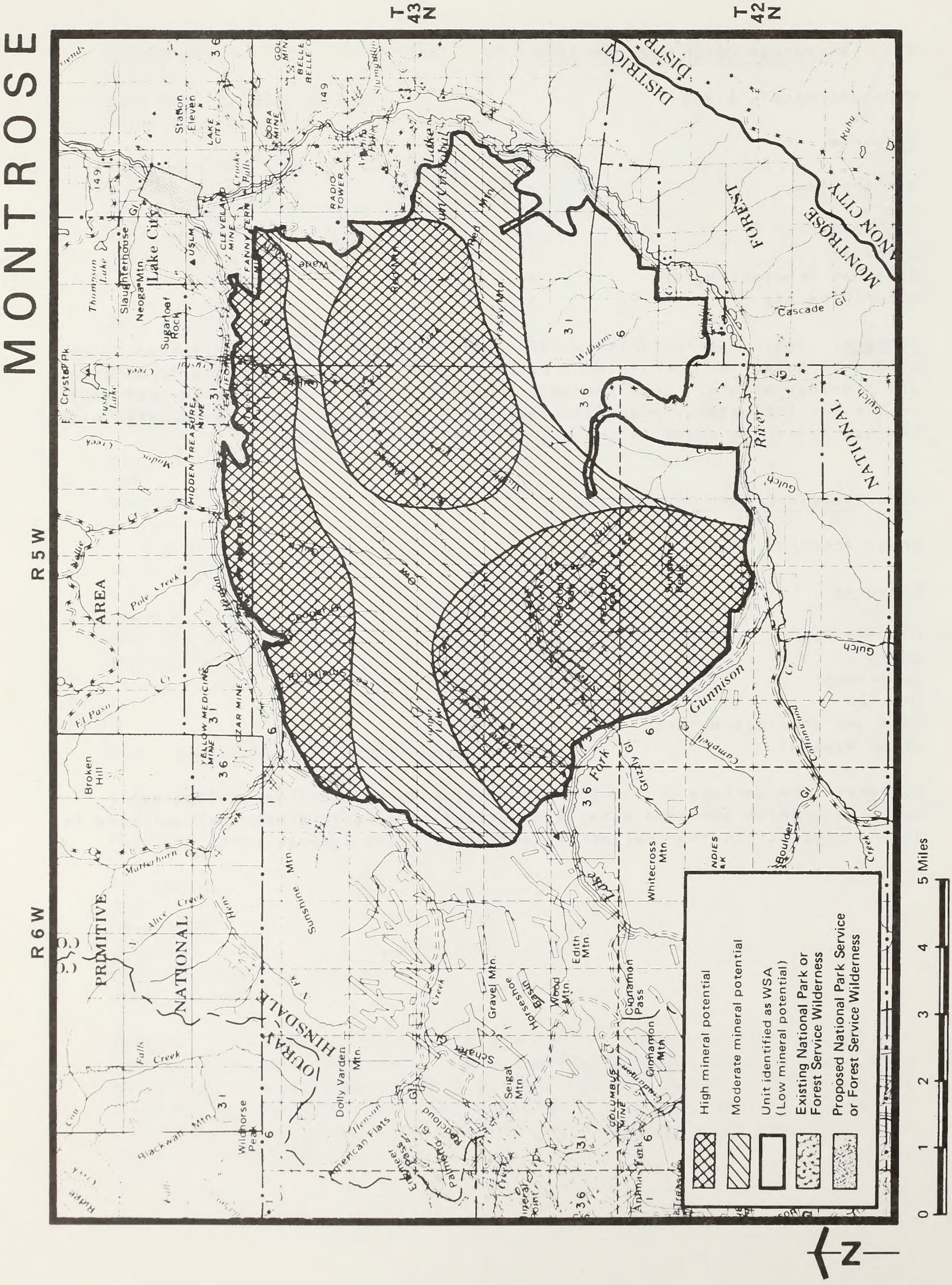
WSA: Needle Creek CO-030-229B

Gross Acreage: 4,500

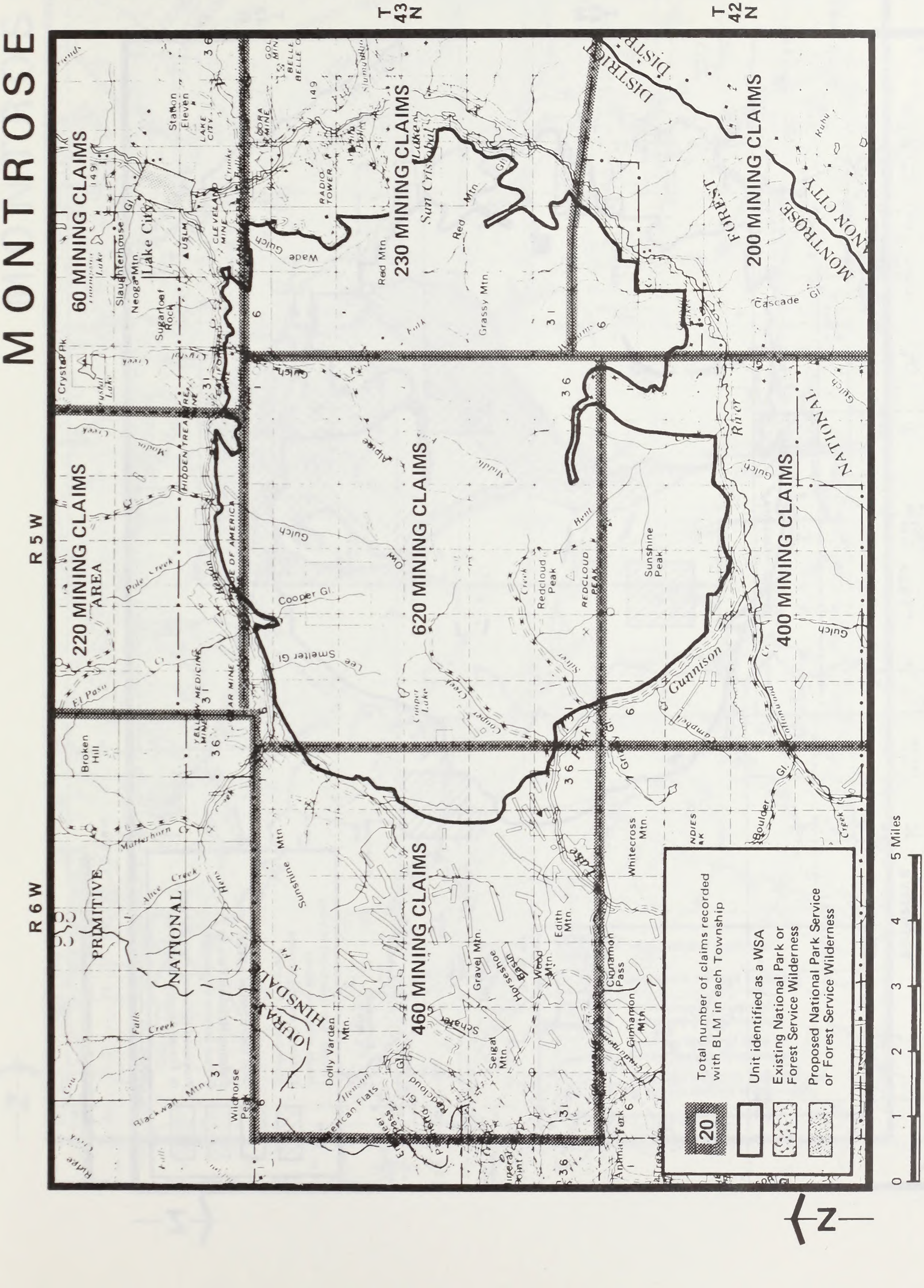
Resource	Rating
Oil and Gas	1
Coal	1
Geothermal	U
Uranium	2
Base and Precious Metals	2
Other Minerals	2

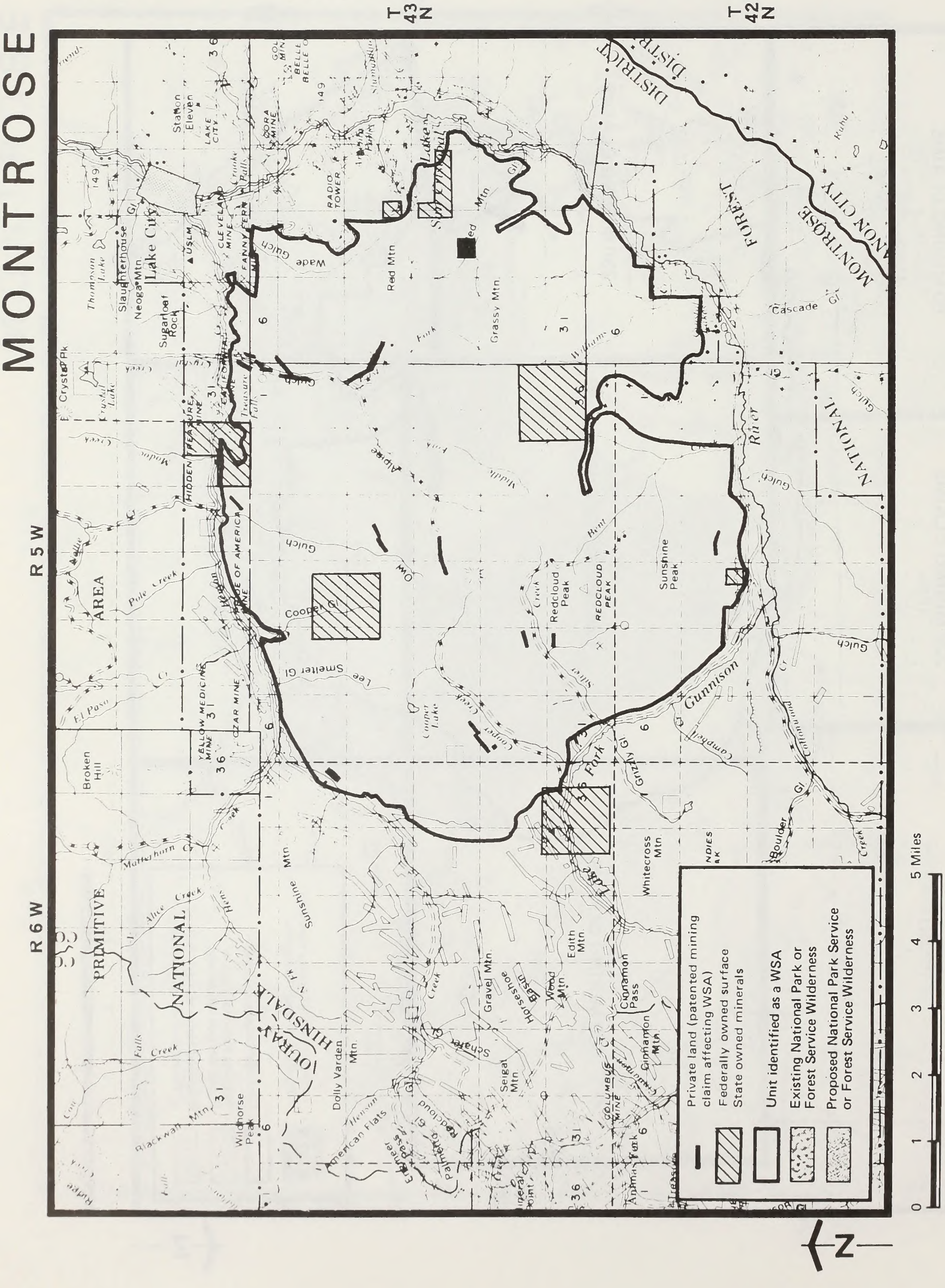
Summary: The geology of the area is similar to adjacent areas showing possible uranium and base metal mineralization as pitchblende and sulfides in shear zones within the Precambrian metamorphic and igneous rocks.

CO-030-208 Red Cloud Peak



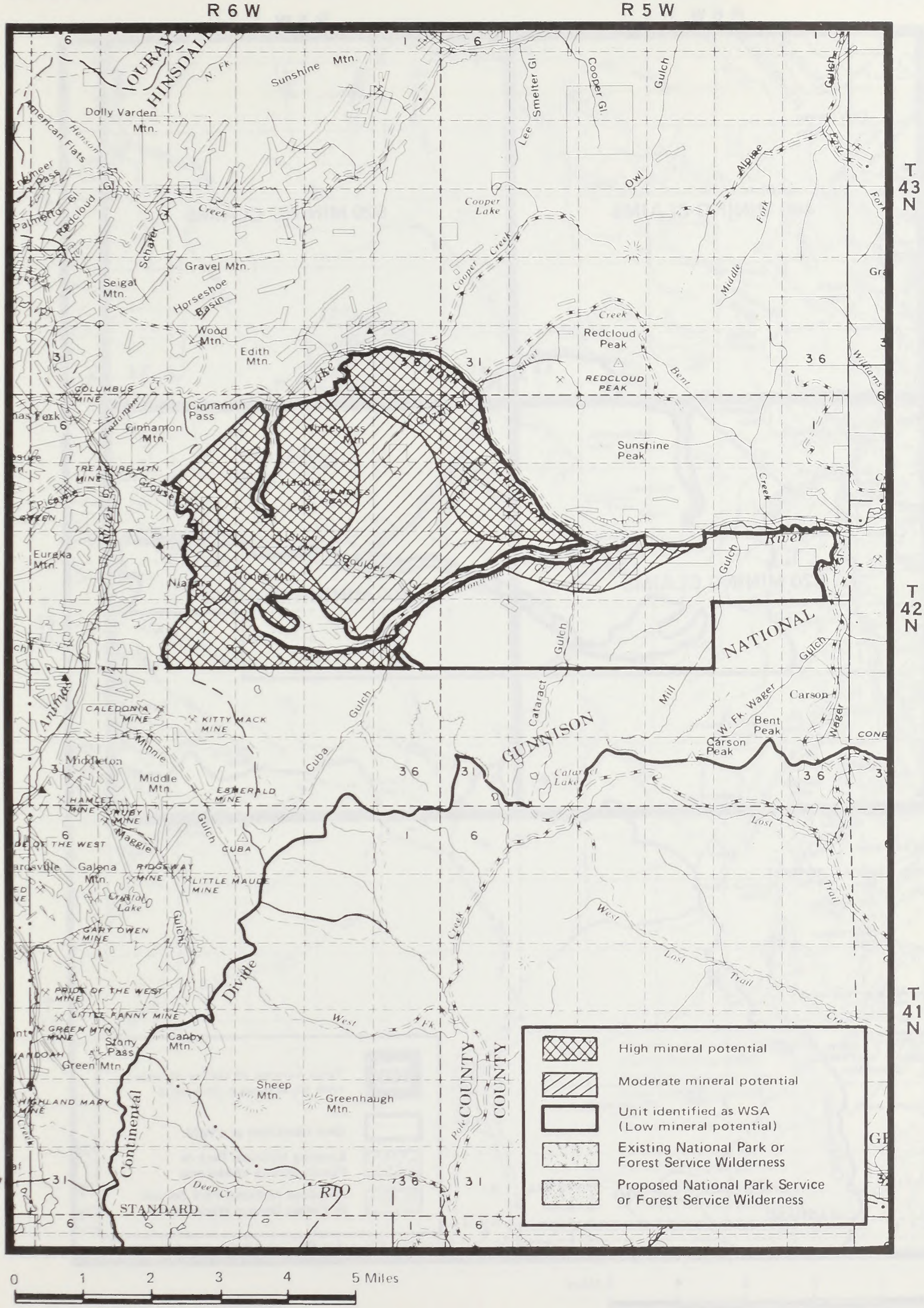
CO-030-208 Red Cloud Peak



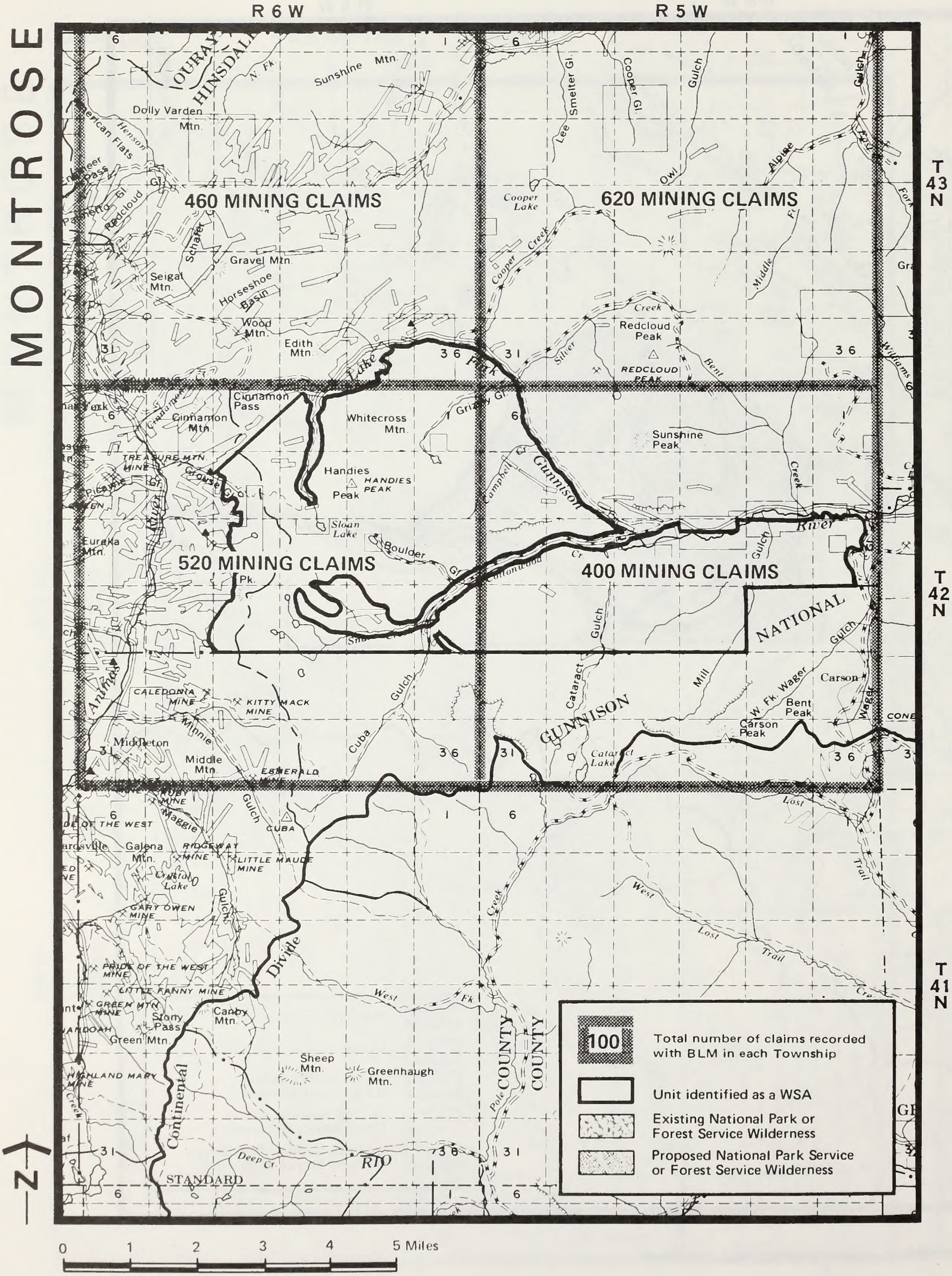

MONTROSE
T 43 N
T 42 N
R 5 W
R 6 W
Lake City
Slaughterhouse Gl
Thompson Lake
Neoga Mtn
Sugarloaf Rock
Crystal Pk
Crystal Lake
Station Eleven
LAKE CITY
CORA MINE
RADIO TOWER
CLEVELAND MINE
FANNY FERN
Wade Gulch
Red Mtn
Red Mtn
Red Mtn
Grassy Mtn
Williams
Alpine
Middle
Cascade Gl
NATIONAL
FOREST
MONTROSE
CANON CITY
DISTRICT
River
HIDDEN TREASURE MINE
CALIFORNIA
PRIDE OF AMERICA MINE
Treasure Falls
AREA
Pole Creek
Owl Gulch
Cooper Gl
Lee Smelter Gl
Redcloud Peak
REDCLOUD PEAK
Sunshine Peak
Bent
Silver
Cooper Lake
Cooper Creek
Gunnison
Campbell
Cottonwood
El Paso Cr
YELLOW MEDICINE MINE
CZAR MINE
Broken Hill
Matterhorn Cr
PRIMITIVE
NATIONAL
Alice Creek
Henson
Sunshine Mtn
Grizzly Gl
Lake Fork
Whitecross Mtn
Edith Mtn
Wood Mtn
Horseshoe Basin
Gravel Mtn
Cinnamon Pass
Cinnamon Mtn
COLUMBUS MINE
Schafer
Seigal Mtn
Dolly Varden Mtn
American Flats
Engineer Pass
Palmetto
Redcloud Gl
Wildhorse Peak
Blackwall Mtn
Falls Creek
OURAY
HINSDALE
Animas Fork
Boulder Gl
Private land (patented mining claim affecting WSA)
Federally owned surface State owned minerals
Unit identified as a WSA
Existing National Park or Forest Service Wilderness
Proposed National Park Service or Forest Service Wilderness
0
1
2
3
4
5 Miles
N

CO-030-241 Handies Peak

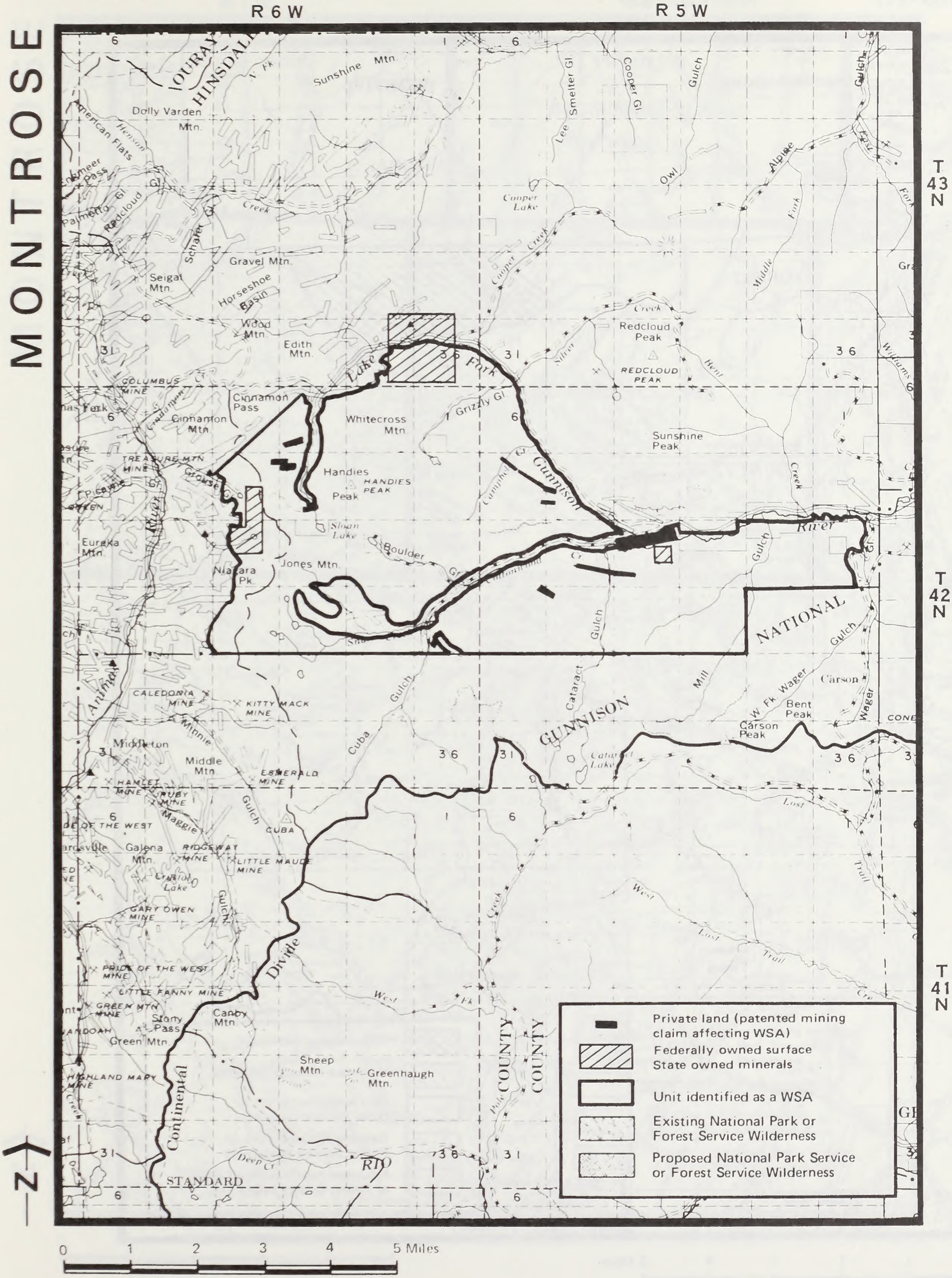
MONTROSE



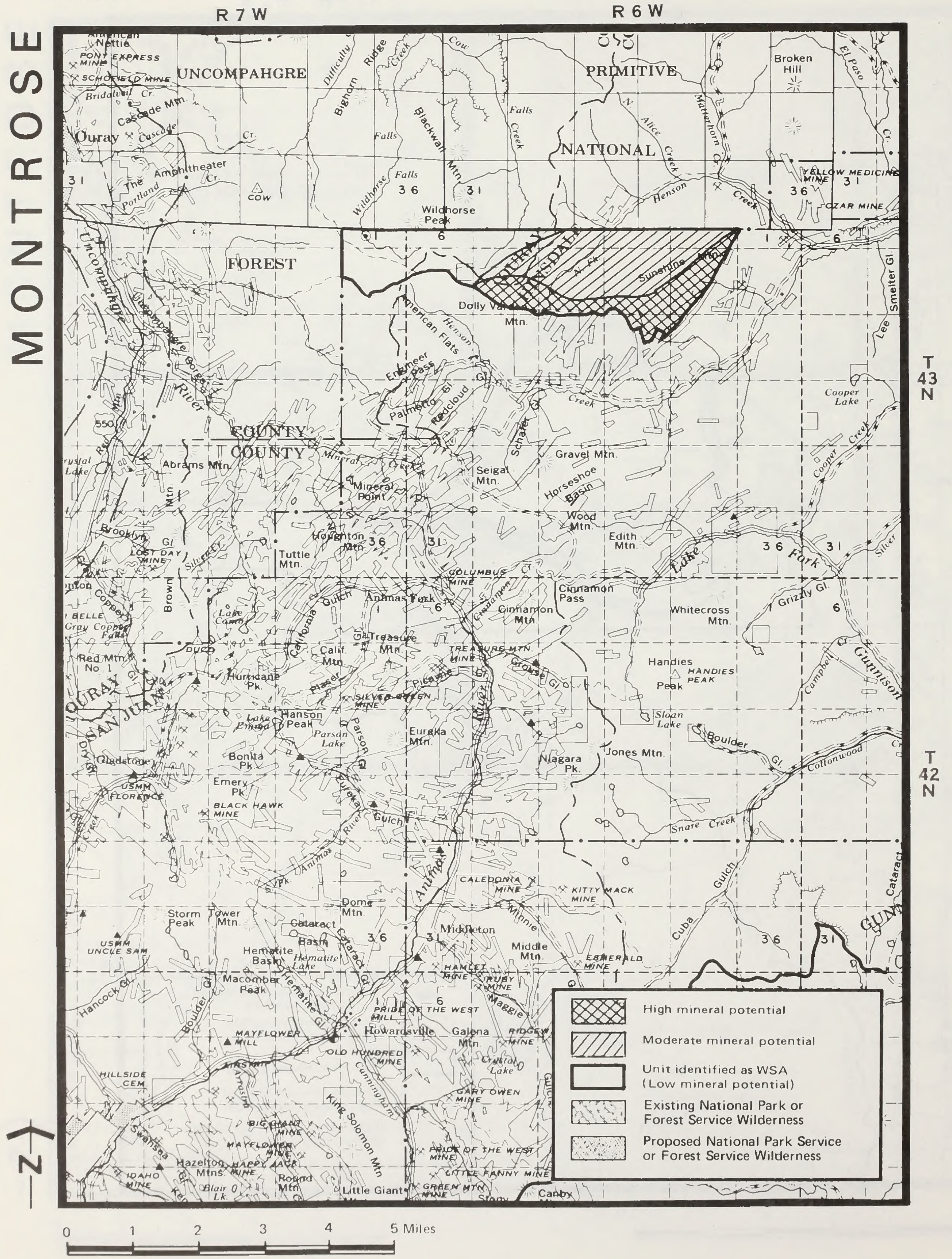
CO-030-241 Handies Peak



CO-030-241 Handies Peak

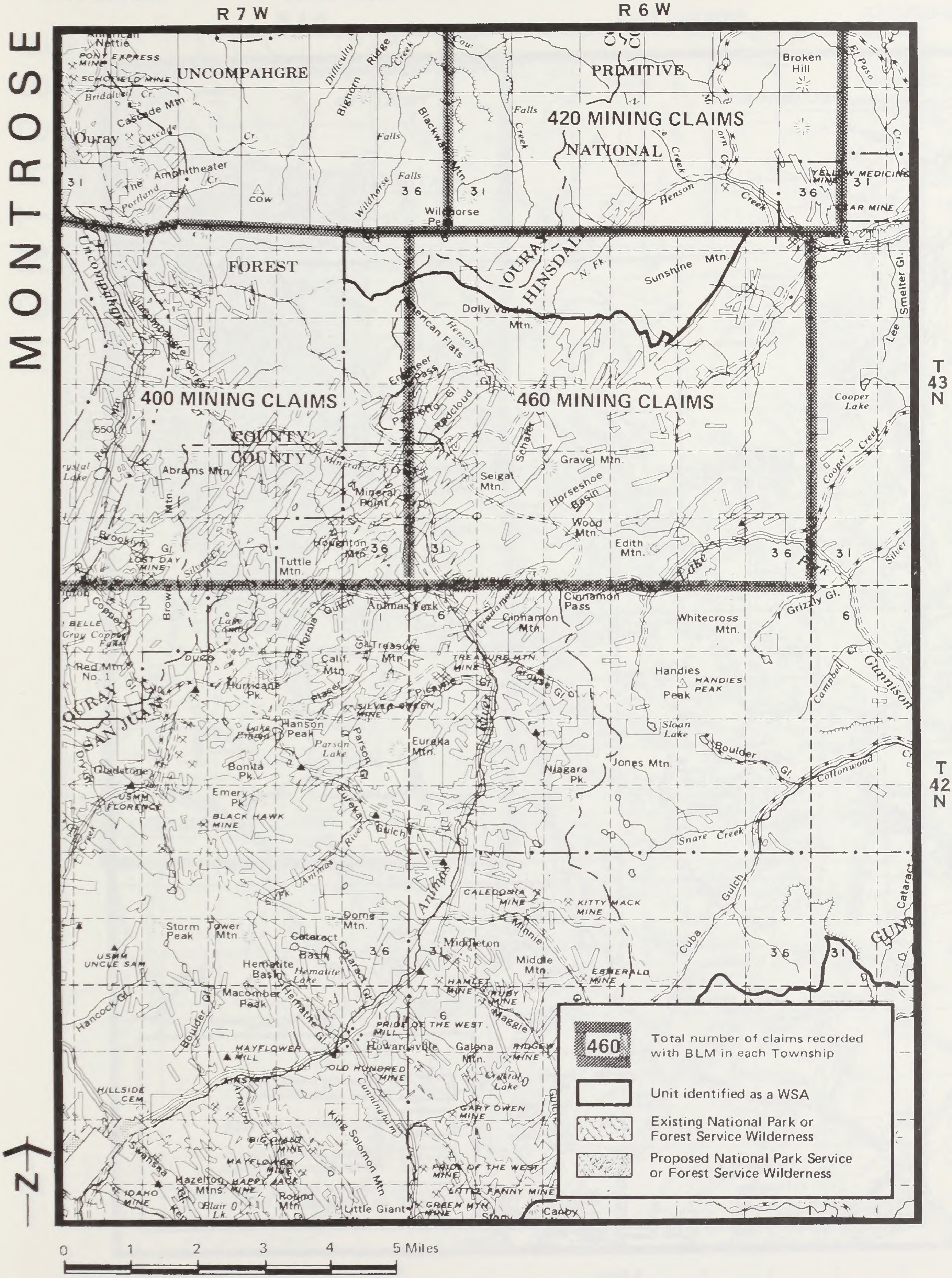


CO-030-217 American Flats

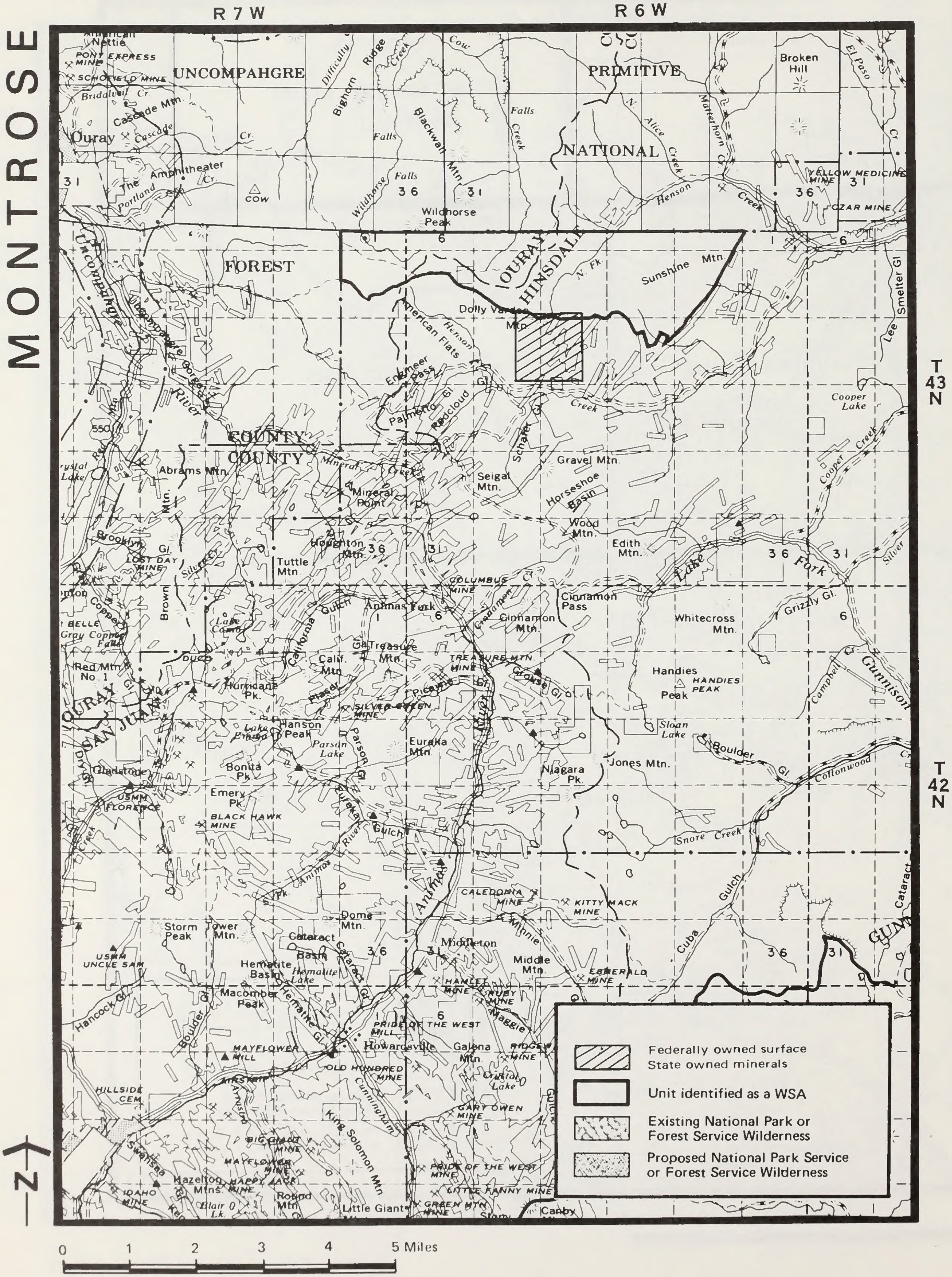


- ▩ High mineral potential
- ▨ Moderate mineral potential
- ☐ Unit identified as WSA (Low mineral potential)
- ▒ Existing National Park or Forest Service Wilderness
- ░ Proposed National Park Service or Forest Service Wilderness

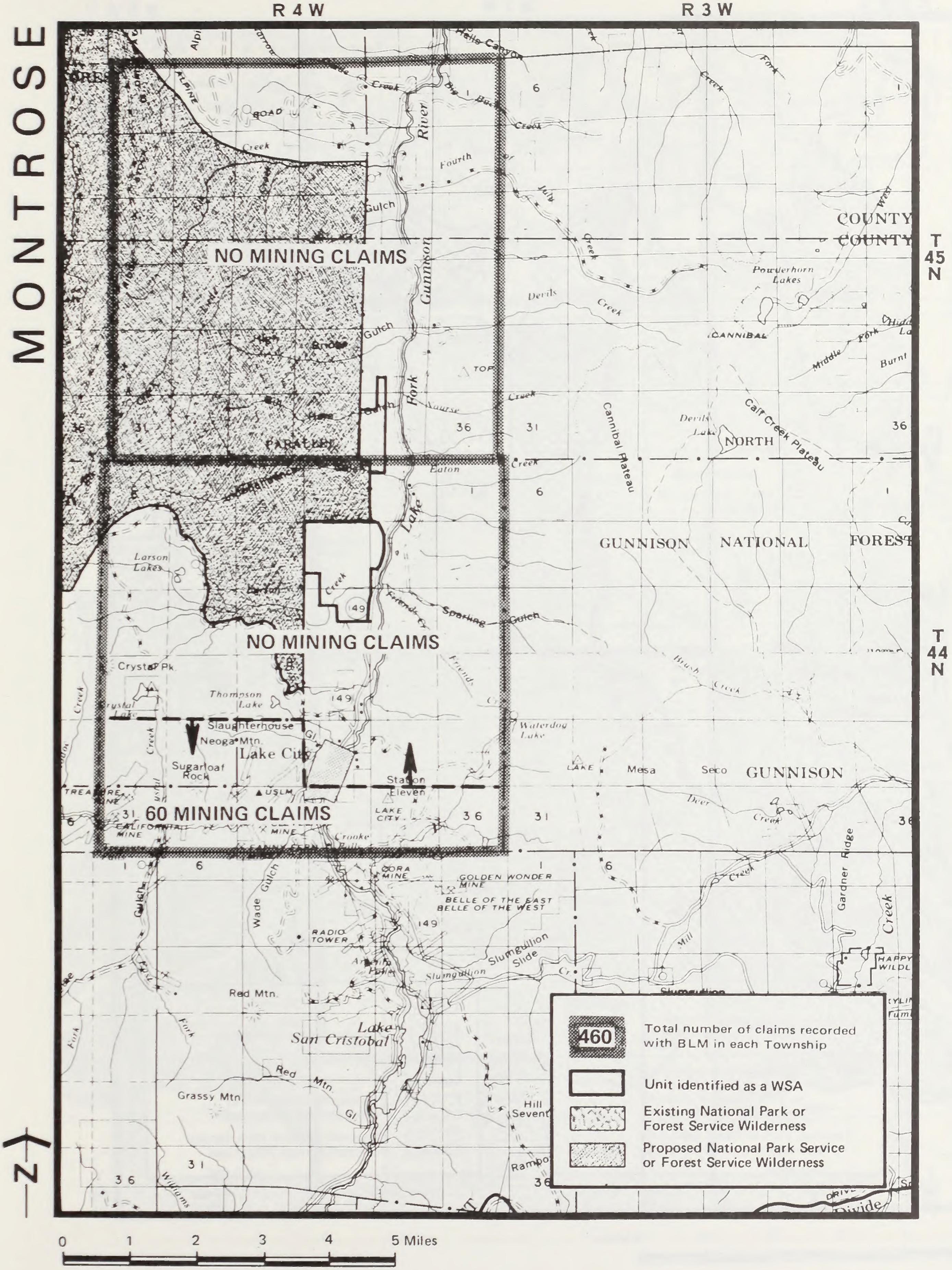
CO-030-217 American Flats



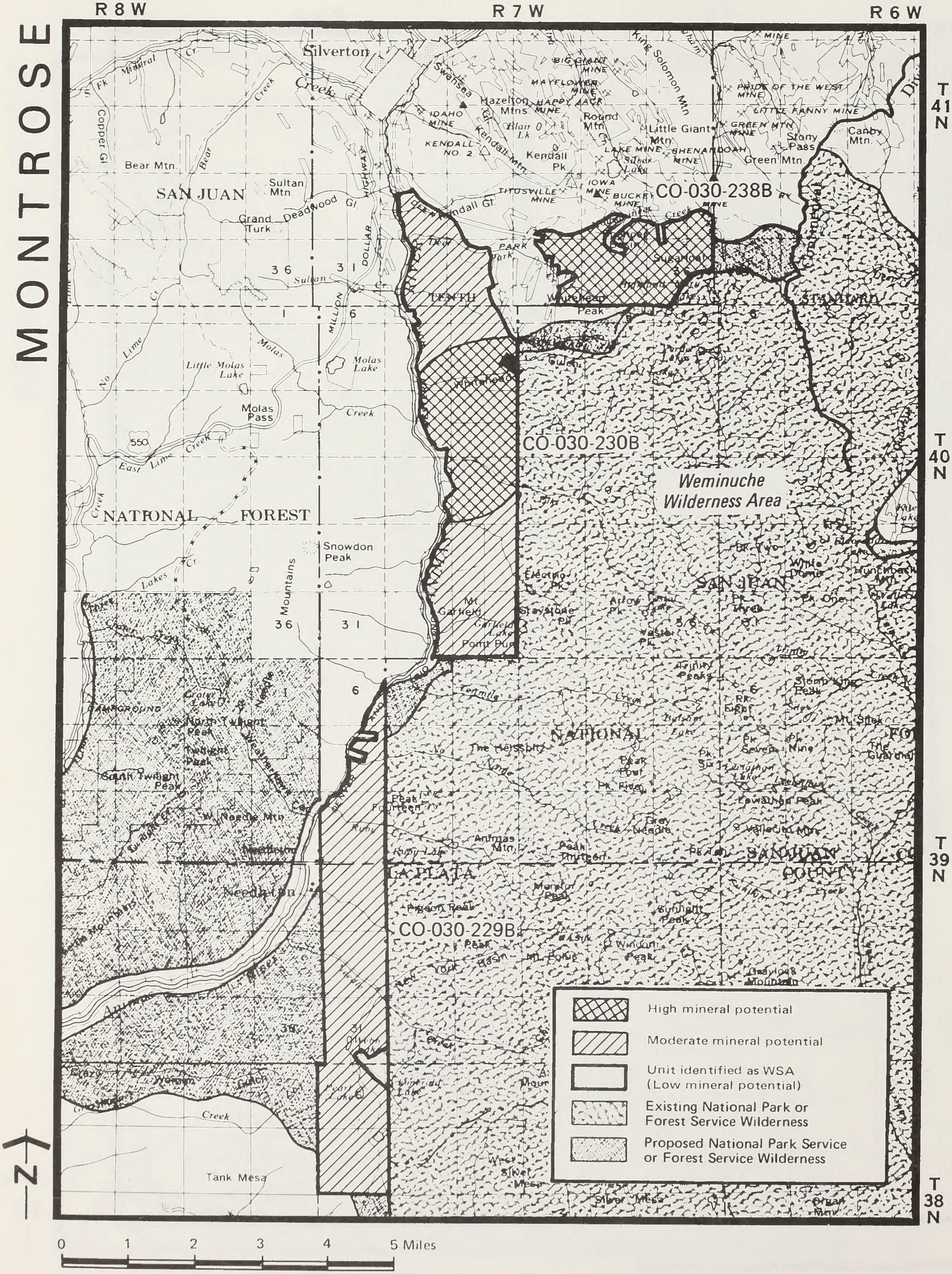
CO-030-217 American Flats



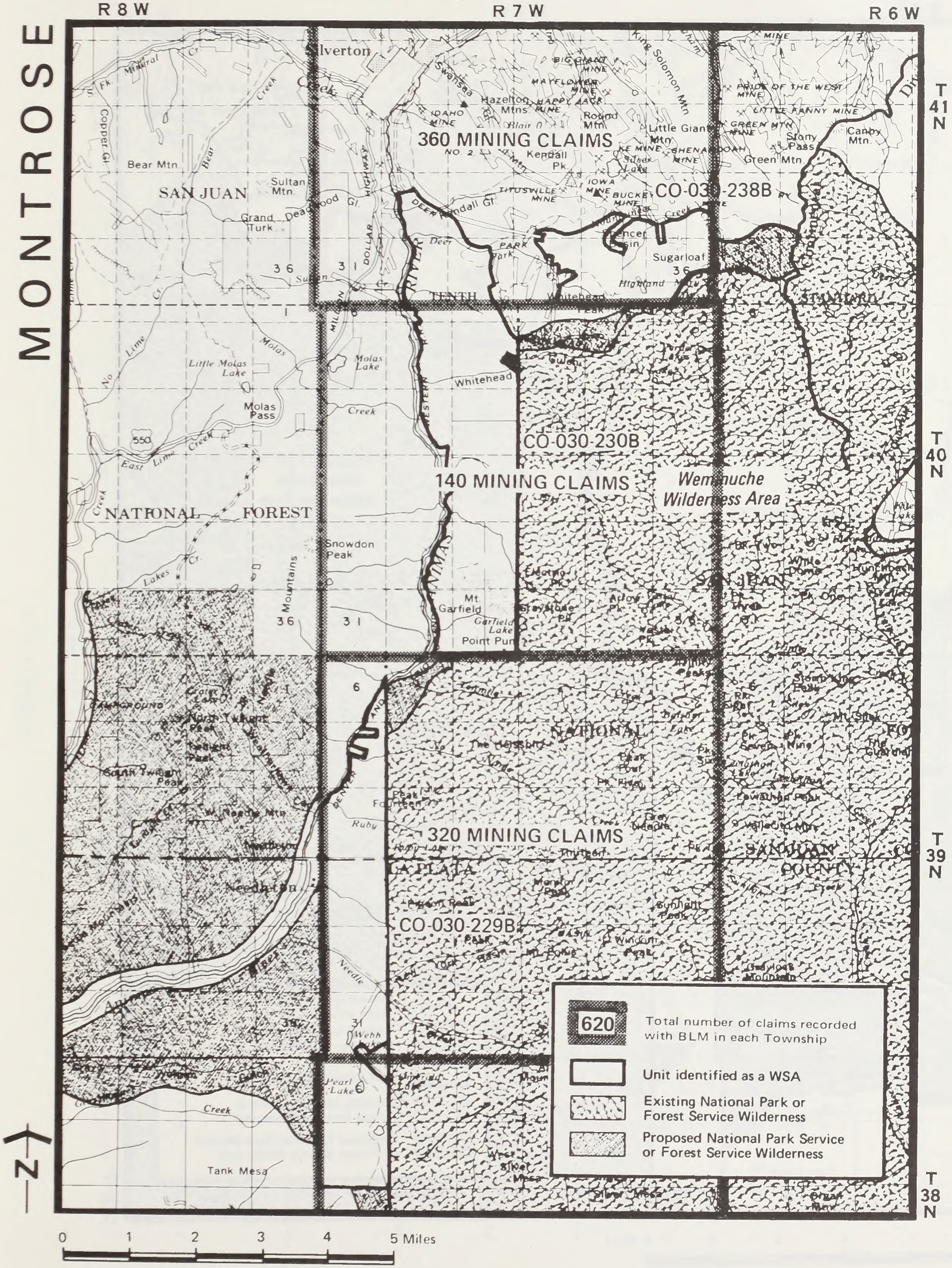
CO-030-085 Bill Hare Gulch
CO-030-086 Larson Creek



CO-030-229B	Needle Creek
CO-030-230B	Whitehead Gulch
CO-030-238B	Weminuche Contiguous

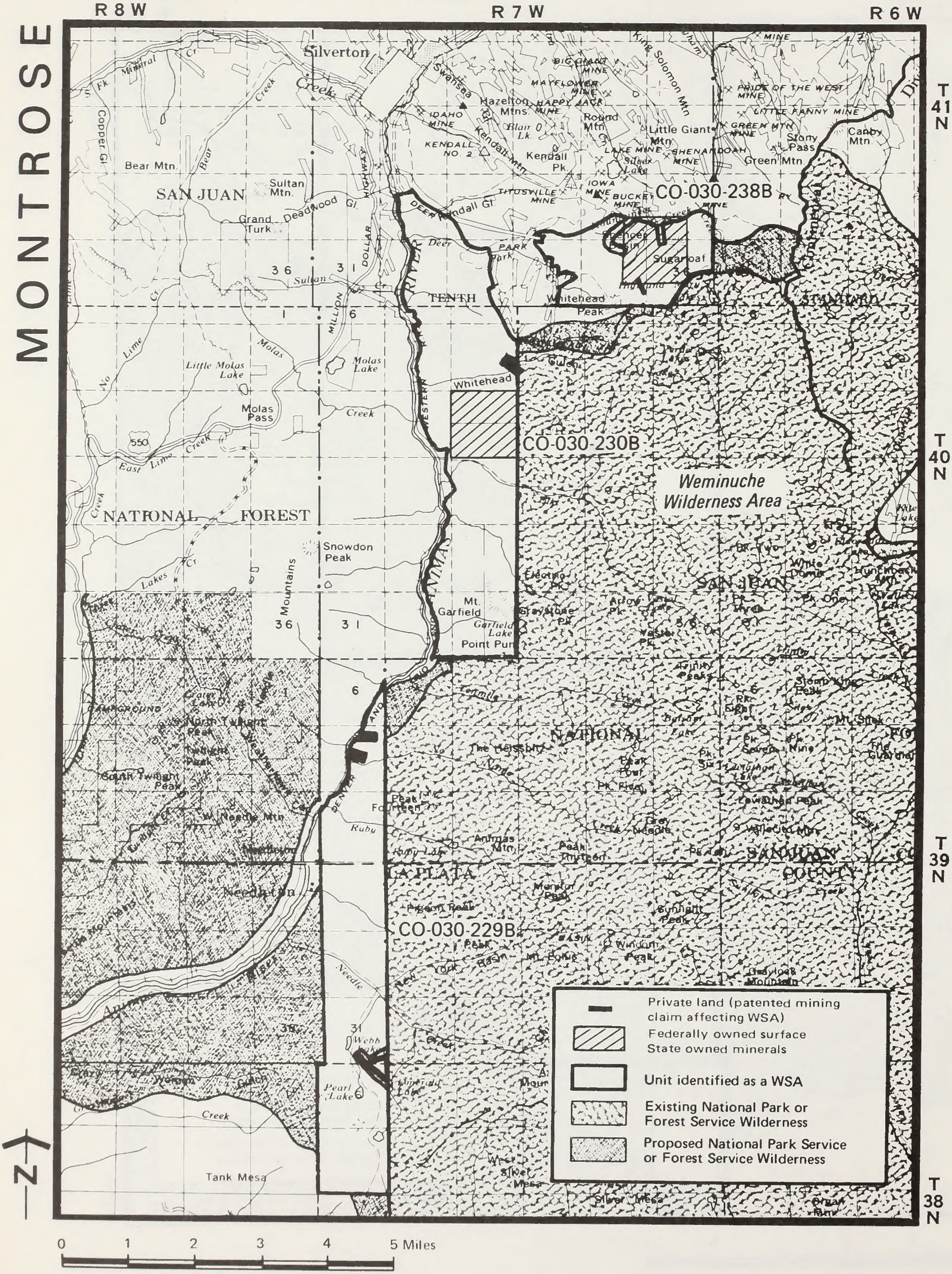


CO-030-229B Needle Creek
CO-030-230B Whitehead Gulch
CO-030-238B Weminuche Contiguous



MONTROSE

CO-030-229B	Needle Creek
CO-030-230B	Whitehead Gulch
CO-030-238B	Weminuche Contiguous



APPENDIX 3.9

RECORDED CULTURAL SITES

Site a/	Type	Description	WSA	Location	Land Status	Eligibility b/
AF004	Mill	Log tipple, stone chimney, concrete mill foundation. CA. 1890-1910	American Flats	Outside WSA boundary on Henson Creek	Patented Mining Claim	Probably Not
AF018	Cabin	Collapsed log cabins CA. 1900	Redcloud Peak	Outside WSA boundary in Burrows Park	Patented Mining Calim	Probably Not
AF019	Mine	Adit, tipple, three wood structures	Redcloud Peak	In WSA in Burrows Park	BLM	Possible
AF041	Dam	Collapsed concrete dam	Redcloud Peak	In WSA on Henson Creek	BLM	Possible
H-B-016	Gothard Mine	Shaft and collapsed shaft house	Redcloud Peak	In WSA near Alpine Gulch	Patented Mining Claim	Probably Not
H-B-017	Cherokee Mine	Adit and four collapsed cabins	Redcloud Peak	In WSA near Alpine Gulch	Patented Mining Claim	Probably Not
H-B-030	Lucky Chance Hydro-electric Plant	Collapsed concrete dam, foundations for electric works, pipeline	American Flats	Partially in WSA, partially on private land on North Fork Henson Creek	Both BLM and Patented Lands	Possible

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a/ BLM assigned number

b/ For inclusion in the National Register of Historic Places in accordance with 36 CFR 800.

APPENDIX 4.1

VALUE OF RECREATION

The recreation value for each WSA in the Gunnison Basin EIS is a total of the estimated value of hunting, camping, climbing and backpacking. Final recreation values are rounded to the nearest 100, 1980 dollars and are presented in Appendix 4.4.

The value of camping, climbing and backpacking for each WSA is based upon estimated use figures present in Chapter 3. Appendix 4.2 presents the final tabulation of camping, climbing and backpacking RVD figures for 1980, 1985 and 2000, next to the letter D (day). When presented in the text these figures are rounded to the nearest 10 RVDs.

The value of a RVD for camping, climbing and backpacking is estimated to be $33.00. This value is a derived willingness to pay figure presented by Steve Moore and Kurt Schumacker in their paper "Recreation Economics" and "The Glenwood Springs Resource Management Plan". Moore and Schumacker present the $33.00 figure as strictly a primitive camping figure. In this EIS the assumption is made that climbing and backpacking are also represented by this figure.

Total camping, climbing and backpacking values for each WSA for 1980, 1985 and 2000 are found in Appendix 4.2 next to the letter V (value) and in Appendix 4.4 next to the letter C (camping). These values are simple multiples of recreation use figures (RVDs) and the $33.00 value discussed above.

The derivation of recreation values for hunting is presented in Appendix 4.3. The value of hunting for each WSA is based upon hunting figures for deer, elk, and bear presented in the "1980 Colorado Big Game Harvest" produced by the Department of Natural Resources, Division of Wildlife.

The methods for establishing hunting figures for each WSA begins with the assumption that hunting within a hunting unit is evenly distributed. The area of each WSA is divided by the area of its appropriate hunting unit and then multiplied by the number of hunting days within the hunting unit for deer, elk and black bear. This process yields a hunter day figure D (day) for each WSA for deer, elk and bear.

The hunter day figure is multiplied by a willingness to pay value (WTP) found in Moore and Schumacker. (The WTP figure for bear is assessed to be the same as the figure Moore and Schumacker suggest for elk.) The hunter day figure multiplied by the WTP vlues yields a value of hunting for each WSA for deer, elk and bear.

These figures are totalled and give a vlue of hunting for 1980 in 1980 dollars. 1985 and 2000 hunting values are established by applying a yearly growth factor.

Total value of recreation is presented in Appendix 4.4. Camping values (C) and hunting values (H) are totalled and rounded to the nearest 100, 1980 dollars to present All Wilderness Values for 1980, 1985 and 2000 for each WSA. Wilderness Management and Conflict Resolution alternatives are derived by multiplying the All-Wilderness values by a percentage figure (P) to yield a value of recreation for each alternative. This figure is rounded to the nearest 100, 1980 dollars and found next to the letter T (total).

Estimates on recreation use was made by the Montrose District Wilderness Resource and Recreation staff.

APPENDIX 4.2

Value of Recreation (Camping, Climbing, Backpacking) 1980 Dollars
Days and Value of Camping, Climbing, Backpacking at $33.00 per RVD 1/
Willingness to Pay

	All-Wilderness					
	1980		1985		2000	
Wilderness Study Area	Days and Value		Days and Value		Days and Value	
Redcloud Peak	D	2,209	D	3,557	D	11,288
	V	72,897	V	117,381	V	372,504
Handies Peak	D	2,557	D	4,117	D	13,066
	V	84,381	V	135,861	V	431,178
American Flats	D	1,977	D	2,906	D	9,213
	V	65,241	V	95,898	V	304,029
Bill Hare Gulch	D	162	D	238	D	755
	V	5,346	V	7,854	V	24,915
Larson Creek	D	162	D	238	D	755
	V	5,346	V	7,854	V	24,915
Weminuche Contiguous	D	420	D	617	D	1,663
	V	13,860	V	20,361	V	54,879
Whitehead Gulch	D	2,664	D	3,916	D	11,793
	V	87,912	V	129,228	V	389,169
Needle Creek	D	2,986	D	4,389	D	13,915
	V	98,538	V	144,837	V	459,195

1/ Recreation Economics and The Glenwood Springs Resource Management Plan, Moore and Schumaker, Appendix 4.4

APPENDIX 4.3

Value of Recreation (Hunting) in 1980 Dollars 1/

WSA	Hunting Unit Area Sq. Mi.1/	WSA Area Sq. Mi.	Deer Hunter Days Unit 1/	Elk Hunter Days Unit 1/	Black Bear Days Unit 1/	WSA Sq. Mi. Unit Area Sq. Mi.	WSA Deer Hunter Days, WTP Value 2/	WSA Elk Hunter Days WTP Value2/	WSA Bear Hunter Days WTP Value 2/	Value of Hunting 1980	1985 Value of Hunting at 8% Increase Per Year	2000 Value of Hunting at 8% Increase Per Year
Redcloud Peak	U 66 A 914	W 63.4	5,377	12,494	511	.06937	D 373 WTP 46 V 17,158	D 867 WTP 53 V45,951	D 35 WTP 53 V 1,855	64,964	104,553*	331,953
Handies Peak	U 66 A 914	W 29.5	5,377	12,494	511	.03228	D 174 WTP 46 V 8,004	D 403 WTP 53 V21,359	D 16 WTP 53 V 848	30,211	48,653*	154,417
American Flats	U 66 A 914	W 7.4	5,377	12,494	511	.00810	D 44 WTP 46 V 2,024	D 101 WTP 53 V 5,353	D 4 WTP 53 V 212	7,589	11,154	35,347
Bill Hare Gulch	U 66 A 914	.6	5,377	12,494	511	.00066	D 4 WTP 46 V 184	D 8 WTP 53 V 424	D 0 WTP 0 V 0	608	912	2,837
Larson Creek	U 66 A 914	1.4	5,377	12,494	511	.00153	D 8 WTP 46 V 368	D 19 WTP 53 V 1,007	D 1 WTP 53 V 53	1,428	2,091	6,630
Weminuche Contiguous	U 75 A 686	3.1	6,384	7,659	1,096	.00432	D 29 WTP 46 V 1,334	D 35 WTP 55 V 1,855	D 5 WTP 53 V 265	3,454	5,106	16,119
Whitehead Gulch	U 75 A 686	9.7	6,384	7,659	1,096	.01414	D 90 WTP 46 V 4,140	D 108 WTP 53 V 5,724	D 15 WTP 53 V 795	10,659	15,663	49,692
Needle Creek	U 75 A 686	W 7.1	6,384	7,659	1,096	.01035	D 66 WTP 46 V 3,036	D 79 WTP 53 V 4,187	D 11 WTP 53 V 583	7,806	11,509	36,378

1/ 1980 Colorado big game harvest.
2/ Willingness to pay for recreation unit day (Moore and Schumacker - Appendix 4-4).
* Includes a 10 percent per annum growth rate for first five years.

APPENDIX 4.4

Value of Recreation - 1980 Dollars

WSA	All-Wilderness			Wilderness Management			Conflict Resolution I			Conflict Resolution II		
	1980	1985	2000	1980	1985	2000	1980	1985	2000	1980	1985	2000
	Hunting Value Plus Camping, Climbing, Backpacking Value=Total Value*			Percent of Wilderness Value and Total Recreation Value								
Redcloud	H 64,964	H 104,553	H 331,953	P 100	P 100	P 100	P 100	P 100	P 85	P 100	P 100	P 50
Peak	C 72,897	C 117,381	C 372,504	T 137,900	T 221,900	T 704,500	T 137,900	T 221,900	T 598,800	T 137,900	T 221,900	T 352,200
	* T 137,900	T 221,900	T 704,500									
Handles	H 30,211	H 48,653	H 154,417	P 50	P 50	P 50	P 100	P 100	P 50	-	-	-
Peak	C 84,381	C 135,861	C 431,178	T 57,300	T 92,300	T 292,800	T 114,600	T 184,500	T 292,800	-	-	-
	* T 114,600	T 184,500	T 585,600									
American	H 7,589	H 11,154	H 35,347	P 90	P 90	P 90	-	-	-	-	-	-
Flats	C 65,241	C 95,898	C 304,029	T 65,500	T 96,300	T 305,400	-	-	-	-	-	-
	* T 72,800	T 107,000	T 339,400									
Bill Hare	H 608	H 912	H 2,837	P 100	P 100	P 100	-	-	-	-	-	-
Gulch	C 5,346	C 7,854	C 24,915	T 6,000	T 8,800	T 27,800	-	-	-	-	-	-
	* T 6,000	T 8,800	T 27,800									
Larson	H 1,428	H 2,091	H 6,630	P 30	P 30	P 30	-	-	-	-	-	-
Creek	C 5,346	C 7,854	C 24,915	T 2,000	T 3,000	T 9,500	-	-	-	-	-	-
	* T 6,800	T 9,900	T 3,150									
Weminuche	H 3,454	H 5,106	H 16,119	P 85	P 85	P 85	-	-	-	-	-	-
Contiguous	C 13,860	C 20,361	C 54,879	T 14,700	T 21,600	T 60,300	-	-	-	-	-	-
	* T 17,300	T 25,500	T 71,000									
Whitehead	H 10,659	H 15,663	H 49,692	P 95	P 95	P 95	P 100	P 100	P 10	-	-	-
Gulch	C 87,912	C 129,228	C 389,169	T 93,600	T 137,600	T 416,900	T 98,600	T 144,900	T 43,900	-	-	-
	* T 98,600	T 144,900	T 438,900									
Needle	H 7,806	H 11,509	H 36,378	P 100	P 100	P 100						
Creek	C 98,538	C 144,837	C 459,195	T 106,300	T 156,300	T 495,600						
	* T 106,300	T 156,300	T 495,600									

* Total value is rounded to nearest 100.

APPENDIX 4.5

Recreation Opportunities Spectrum

The effects of the various alternatives on the types of recreation opportunities available in all the WSAs, excluding Redcloud Peak, can be summarized as follows:

	Recreation Opportunity Class				
WSA	Primitive	Semi-Primitive Non-Motorized	Semi-Primitive Motorized	Roaded Natural	Rural
Handies Peak	-	71%	-	29%	-
American Flats	-	100%	-	-	-
Bill Hare Gulch	-	39%	-	61%	-
Larson Creek	-	74%	-	26%	-
Weminuche Contiguous	-	72%	28%	-	-
Whitehead Gulch	-	72%	-	28%	-
Needle Creek	-	86%	-	14%	-

Execept for Redcloud Peak, the remaining WSAs being analyzed in the environmental statement do not provide a real diversity of recreation opportunity classes. Only two opportunity classes are exhibited in each of these WSAs. The American Flats WSA, however, has but one opportunity class.

Therefore, potential wilderness users can achieve only a limited variety of recreation experiences in these WSAs. The various alternatives for the WSAs serve to reduce the amount of acreage that each WSA exhibits in specific opportunity classes. One case, the Weminuchge Contiguous WSA the semi-primitive, motorized opportunity class is completely eliminated. Because of the lack of diversity in the opportunity classes exhibited in the WSA, managers will have an equally limited latitude in exercising different options for managing the wilderness resource and its use.

In summary, Redcloud Peak WSA becomes very significant when recognizing that the remaining WSAs in the study area provide wilderness recreation in just two opportunity classes. The Redcloud Peak WSA is the only WSA in the study area which exhibits the primitive recreation opportunity class; that is, an area in which the potential wilderness user can achieve experiences associated with the most pure forms of wilderness recreation (e.g., challenge, risk-taking, isolation, necessity to utilize outdoor skills with a high degree of interaction with the natural environment).

APPENDIX 4.5

Redcloud WSA: Total Acres 40,575

Alternatives	Acres in Each Alternative/% of Total WSA	Acres/% of Total WSA in Each Recreation Opportunity Class Primitive	Semi-Primitive Non-Motorized	Semi-Primitive Motorized	Roaded Natural	Rural
A. Designate Entire Area	40,575 ac. 100%	12,984 ac. 32%	22,316 ac. 55%	2,029 ac. 5%	3,246 ac. 8%	-
B. Non-Designation	-	-	-	-	-	-
C. Wilderness Manageability	37,530 ac. 93%	12,010 ac. 30%	20,266 ac. 50%	2,252 ac. 6%	3,002 ac. 7%	-
D. Conflict Resolution Alternative I	29,680 ac. 73%	10,685 ac. 26%	16,027 ac. 40%	1,187 ac. 3%	1,781 ac. 4%	-
E. Conflict Resolution Alternative II	11,190 ac. 28%	3,693 ac. 9%	6,378 ac. 16%	224 ac. 1%	895 ac. 2%	-

Handies Peak WSA: Total Acres 18,860

Alternatives	Acres in Each Alternative/% of Total WSA	Acres/% of Total WSA in Each Recreation Opportunity Class Primitive	Semi-Primitive Non-Motorized	Semi-Primitive Motorized	Roaded Natural	Rural
A. Designate Entire Area	18,860 ac. 100%	-	13,391 ac. 71%	-	5,469 ac. 29%	-
B. Non-Designation	-	-	-	-	-	-
C. Wilderness Manageability	8,220 ac. 44%	-	5,836 ac. 31%	-	2,384 ac. 13%	-
D. Conflict Resolution Alternative I	7,120 ac. 38%	-	5,269 ac. 28%	-	1,851 ac. 10%	-

APPENDIX 4.5
(Continued)

American Flats WSA: Total Acres 4,710

		Acres/% of Total WSA in Each Recreation Opportunity Class				
Alternatives	Acres in Each Alternative/% of Total WSA	Primitive	Semi-Primitive Non-Motorized	Semi-Primitive Motorized	Roaded Natural	Rural
A. Designate Entire Area	4,710 ac. 100%	-	4,710 ac. 100%	-	-	-
B. Non-Designation	-	-	-	-	-	-
C. Wilderness Manageability	-	-	-	-	-	-
D. Conflict Resolution Alternative I	1,505 ac. 32%	-	1,505 ac. 32%	-	-	-

Bill Hare Gulch WSA: Total Acres 370

		Acres/% of Total WSA in Each Recreation Opportunity Class				
Alternatives	Acres in Each Alternative/% of Total WSA	Primitive	Semi-Primitive Non-Motorized	Semi-Primitive Motorized	Roaded Natural	Rural
A. Designate Entire Area	370 ac. 100%	-	144 ac. 39%	-	226 ac. 61%	-
B. Non-Designation	-	-	-	-	-	-
C. Wilderness Manageability	325 ac. 88%	-	263 ac. 71%	-	62 ac. 17%	-

APPENDIX 4.5
(Continued)

Larson Creek WSA: 900 acres

		Acres/% of Total WSA in Each Recreation Opportunity Class				
Alternatives	Acres in Each Alternative/% of Total WSA	Primitive	Semi-Primitive Non-Motorized	Semi-Primitive Motorized	Roaded Natural	Rural
A. Designate Entire Area	900 ac. 100%	-	666 ac. 74%	-	234 ac. 26%	-
B. Non-Designation	-	-	-	-	-	-
C. Wilderness Manageability	480 ac. 53%	-	403 ac. 44%	-	77 ac. 9%	-

Weminuche Contiguous WSA: Total Acres 1,980

		Acres/% of Total WSA in Each Recreation Opportunity Class				
Alternatives	Acres in Each Alternative/% of Total WSA	Primitive	Semi-Primitive Non-Motorized	Semi-Primitive Motorized	Roaded Natural	Rural
A. Designate Entire Area	1,980 ac. 100%	-	1,426 ac. 72%	554 ac. 28%	-	-
B. Non-Designation	-	-	-	-	-	-
C. Wilderness Manageability	375 ac. 19%	-	375 ac. 19%	-	-	-

APPENDIX 4.5
(Continued)

Whitehead Gulch WSA: Total Acres 6,200

Alternatives	Acres in Each Alternative/% of Total WSA	Acres/% of Total WSA in Each Recreation Opportunity Class				
		Primitive	Semi-Primitive Non-Motorized	Semi-Primitive Motorized	Roaded Natural	Rural
A. Designate Entire Area	6,200 ac. 100%	-	4,464 ac. 72%	-	1,736 ac. 28%	-
B. Non-Designation	-	-	-	-	-	-
C. Wilderness Manageability	4,115 ac. 66%	-	3,045 ac. 49%	-	1,070 ac. 17%	-
D. Conflict Resolution Alternative I	1,770 ac. 29%	-	1,274 ac. 21%	-	496 ac. 8%	-

Needle Creek WSA: Total Acres 4,540

Alternatives	Acres in Each Alternative/% of Total WSA	Acres/% of Total WSA in Each Recreation Opportunity Class				
		Primitive	Semi-Primitive Non-Motorized	Semi-Primitive Motorized	Roaded Natural	Rural
A. Designate Entire Area	4,540 ac. 100%	-	3,904 ac. 86%	-	636 ac. 14%	-
B. Non-Designation	-	-	-	-	-	-
C. Wilderness Manageability	4,160 ac. 92%	-	3,619 ac. 80%	-	541 ac. 12%	-

U.S. GOVERNMENT PRINTING OFFICE: 577-568 — 1982

MAP 1 - 2

Form 1279—3
(June 1984)

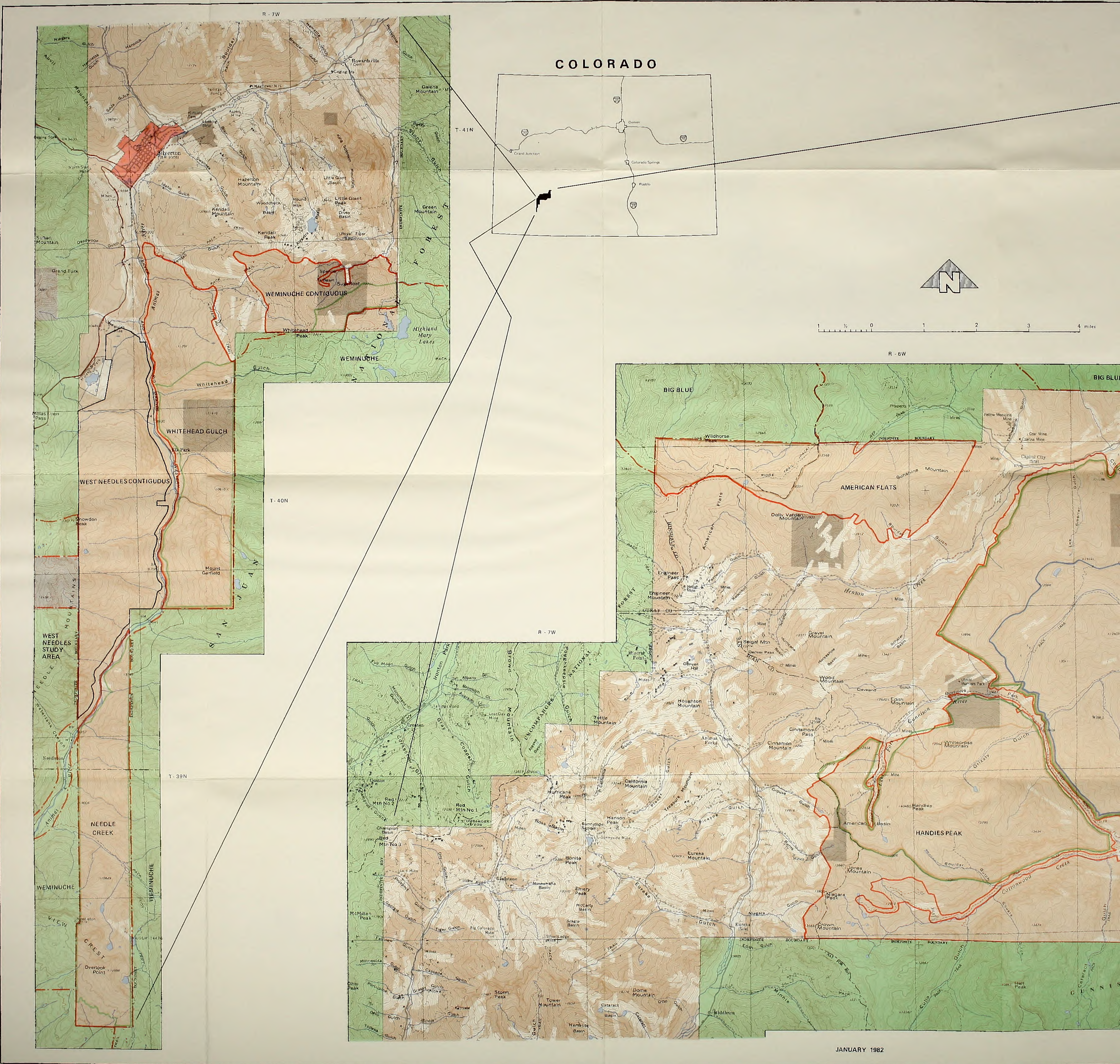
BORROWER'S

QH 76.5 .C6 G86 1982

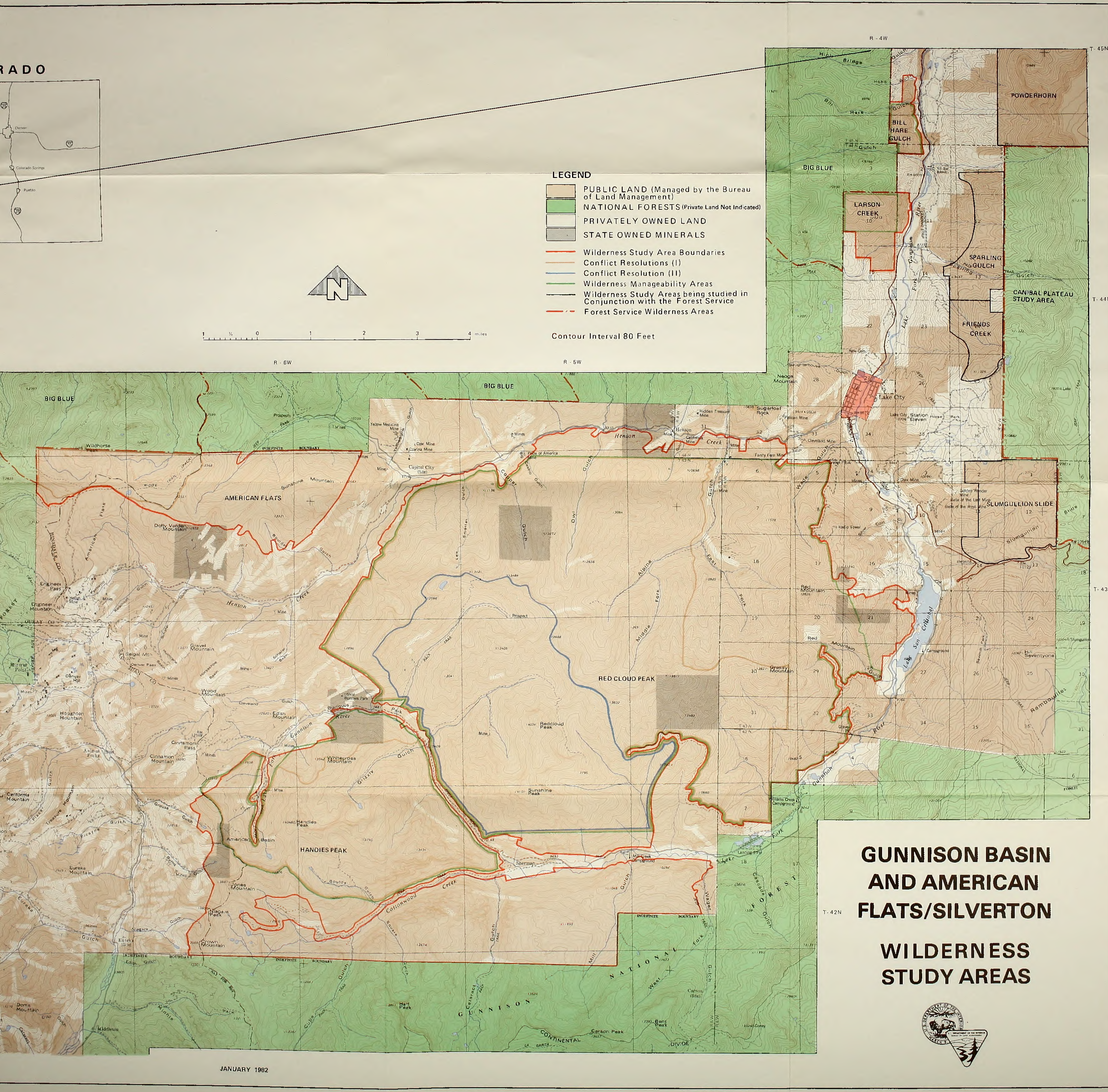
Proposed wilderness
designation of the

DATE LOANED	BORROWER

USDI — BLM



JANUARY 1982



LEGEND

- 🟫 PUBLIC LAND (Managed by the Bureau of Land Management)
- 🟩 NATIONAL FORESTS (Private Land Not Indicated)
- ☐ PRIVATELY OWNED LAND
- ▨ STATE OWNED MINERALS
- — Wilderness Study Area Boundaries
- — Conflict Resolutions (I)
- — Conflict Resolution (II)
- — Wilderness Manageability Areas
- — Wilderness Study Areas being studied in Conjunction with the Forest Service
- —·- Forest Service Wilderness Areas

Contour Interval 80 Feet

GUNNISON BASIN AND AMERICAN FLATS/SILVERTON

WILDERNESS STUDY AREAS

JANUARY 1982